Service Manual

ViewSonic VG1930wm-3

Model No. VS11419

19” Color TFT LCD Display

(VG1930wm-3_SM Rev. 1a Jan. 2007)

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Revision History

Revision	SM Editing Date	ECR Number	Description of Changes	Editor
1a	1/12/2007		Initial Release	Jamie Chang

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1. Precautions and Safety Notices

1. Appropriate Operation

(1) Turn off the product before cleaning.

(2) Use only a dry soft cloth when cleaning the LCD panel surface.

(3) Use a soft cloth soaked with mild detergent to clean the display housing.

(4) Use only a high quality, safety approved AC/DC power cord.

(5) Disconnect the power plug from the AC outlet if the product will not be used for a long period of time.

(6) If smoke, abnormal noise, or strange odor is present, immediately switch the LCD display off.

(7) Do not touch the LCD panel surface with sharp or hard objects.

(8) Do not place heavy objects on the LCD display, video cable, or power cord.

(9) Do not use abrasive cleaners, waxes or solvents for your cleaning.

(10) Do not operate the product under the following conditions:

- Extremely hot, cold or humid environment.
- Areas containing excessive dust and dirt.
- Near any appliance generating a strong magnetic field.
- In direct sunlight.

2. Caution

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

3. Safety Check

Care should be taken while servicing this LCD display. Because of the high voltage used in the inverter circuit, the voltage is exposed in such areas as the associated transformer circuits.

4. LCD Module Handling Precautions

4.1 Handling Precautions

(1) Since front polarizer is easily damaged, pay attention not to scratch it.

(2) Be sure to turn off power supply when connecting or disconnecting input connector.

(3) Wipe off water drops immediately. Long contact with water may cause discoloration or spots.

(4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.

(5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.

(6) Since CMOS LSI is used in this module, take care of static electricity and ensure human earth when handling.

(7) Do not open or modify the Module Assembly.

(8) Do not press the reflector sheet at the back of the module in any direction.

(9) In the event that a Module must be put back into the packing container slot after it was taken out of the container, do not press the center of the CCFL Reflector edge. Instead, press at the far ends of the CFL Reflector edge softly. Otherwise the TFT Module may be damaged.

(10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate or tilt the Interface Connector of the TFT Module.

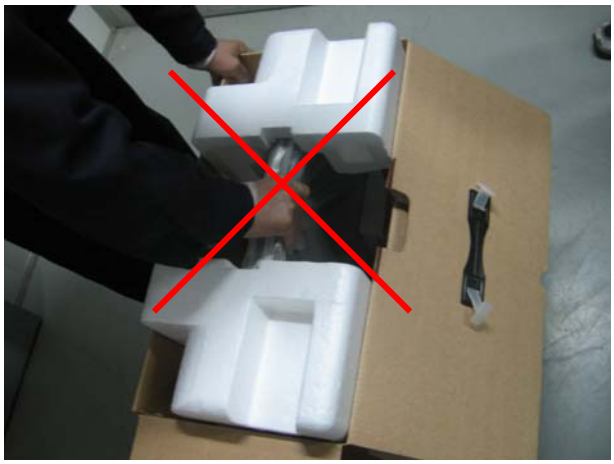
(11) After installation of the TFT Module into an enclosure (LCD monitor housing, for example), do not twist or bend the TFT Module even momentarily. When designing the enclosure, it should be taken into consideration that no

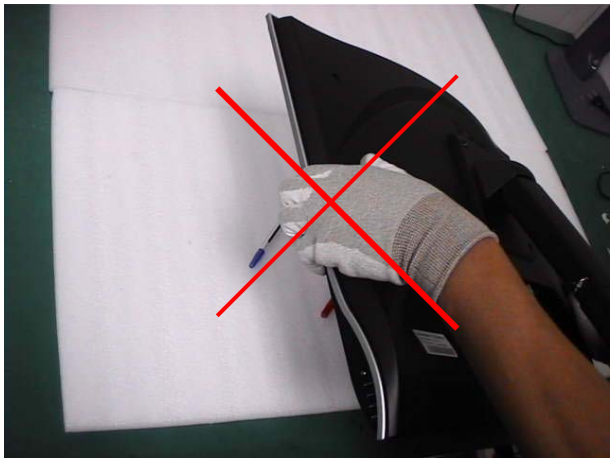
bending/twisting forces may be applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.

(12) The cold cathode fluorescent lamp in the LCD contains a small amount of mercury. Please follow local ordinances or regulations for disposal.

(13) The LCD module contains a small amount of materials having no flammability grade. The LCD module should be supplied with power that complies with the requirements of Limited Power Source (IEC60950 or UL1950), or an exemption should be applied for.

(14) The LCD module is designed so that the CCFL in it is supplied by a Limited Current Circuit (IEC60950 or UL1950). Do not connect the CCFL to a Hazardous Voltage Circuit

Correct methods :	Incorrect Methods :
Only touch the metal-frame of the panel or the front cover of the monitor. Do not touch the surface of the polarizer .	Surface of the panel is pressed by fingers & this may cause “ MURA “
Take out the monitor form carton.	Take out the monitor by grasping the LCD panel. That may cause “ MURA“.
	

Correct methods :	Incorrect Methods :
Place the monitor on a clean & soft foam pad .	Place the monitor on foreign objects . That could scratch the surface of panel
	

2. Specification

Introductions

FEATURES		VG1930wm-3
TFTLCD PANEL	Size	19 “W
	Luminance (Typ)	300 cd/㎡
	Contrast Ratio (Typ)	700:1
	Colors	16.2 M colors
	Response Time (Typ)	5 ms
	Viewing Angle (H/V)	150/130(degrees;type)@CR>10
	Recommend resolution	1440 X 900 @60Hz
Input Signal	Analog (75ohms, 0.7/1.0 Vp-p)	Yes
	Digital	Yes
Sync Compatibility	Separate Sync	Yes
	Composite Sync	Yes
	Sync on Green	Yes
Compatibility	PC	Yes
	Power Mac	Yes
	TV Box (NextVision 6)	No
Power Voltage	AC 100-240V, 50/60Hz	Yes
Power Consumption	On Mode(Max / Typ)	36 W
	Active Off Mode (Max)	＜2 W
Audio	W	1.5w X 2
Ergonomics	Tilt	-5 ° ~ 20 °
	Swivel (-xx ° - xx °)	360
	Pivot (XX ° - XX °)	No
	Height Adjust (XX-XX mm)	0-80mm
OSD Control	[⏻] [1] [2] [▲] [▼] [◀ X]	Yes
Dimension	Physical (W x H x D)	460 mm (W) x 434 mm (H) x 230 mm (D) 18.1" (W) x 17.1" (H) x 9.1" (D)
	Package (W x H x D)	560 mm (W) x 525 mm (H) x 282 mm (D) 22" (W) x 20.7" (H) x 11.1" (D)
Weight	Physical (lbs / Kg)	5.5 Kg (12.13 lbs)
	Package (lbs / Kg)	7.3 Kg (16.10 lbs)
Operating Condition	Temperature (℉/℃)	32°F to 104°F (0°C to 40°C)
	Humidity (%)	10% to 90% (no condensation)
Storage Condition	Temperature (℉/℃)	-4°F to 140°F (-20°C to 60°C)
	Humidity (%)	10% to 90% (no condensation)
Regulation	UL, CUL, FCC-B (ICES), CB, CE, TCO'03, ICES-003B, ISO13406-2, TUV/GS, TUV ERGO(covers ISO13406-2 & MPRII), TUV-S, VCCI, NOM, GOST-R, HYGIENIC (20 copies), ENERGY, Energy Star, CCC, BSMI, PSB, C-TICK, KTL/MIC, SASO, WEEE, RoHS	

Product definition and specification

Product Name	ViewSonic VG1930wm
Oracle P/N	VG1930WM-3
Model Number	VS11419
OSD Languages	English, French, German, Italian, Spanish, Finnish, Japanese, Traditional Chinese, Simplified Chinese
TFT LCD Panel and Model #	CMO M190A1-L02
Scalar	MST TSUM56AL-LF-1
Input Signal	Analog x1 / Digital x1
Sync Compatibility	Separate Sync / Composite Sync / SOG
Adapter	Internal Power Board
Power Cable	Yes, refer to APPENDIX B: Power Cable
Analog Cable (1.8 m, black), with PC 2001 and Hot Plug Detect &DDC	Yes (Detached cable; refer the Appendix A)
DVI-D Cable(1.8m, black) with PC 2001	For Region code = P/A/J/K/S units only
Audio Cable(1.8m, black) with PC 2001	Yes
MIC Cable(1.8m, black) with PC 2001	No
USB Cable (V2.0)	No
ViewSonic CD Wizard	Arabic, English, Finnish, Spanish, German, Italian, Japanese, Swedish, Polish, Korean, Portuguese, Russian, Turkish , French, Czech, Hungarian, Simplified Chinese, Traditional Chinese
ViewSonic Quick Start Guide	
PerfectSuite CD	No
Screen Protector Mylar	Yes
Foot Protector plastic	No
Service Insert	For Region code = M units only
Warranty Sticker	For Region code = G units only
Warranty Card	For Region code = G units only
Carton Sticker	For Region code = G units only
PE bag of Carton	For Region code = G units only

2.2 GENERAL specification

Test Resolution & Frequency	"1440 X900" @ 60Hz
Test Image Size	Full Size
Contrast and Brightness Controls	Factory Default: Contrast = 70%, Brightness = 100%

2.3 VIDEO INTERFACE

Input Connector(refer the appendix A)	Analog : D-sub 15 , Digital: DVI-D
Default Input Connector	Defaults to the first detected input
Video Cable Strain Relief	Equal to twice the weight of the monitor for five minutes
Video Cable Connector DB-15 Pin out	Refer to Appendix A; Compliant DDC/CI
Video Signals	Video RGB (Analog) Separate Sync / Composite Sync / SOG TMDS (Digital)
Video Impedance	75 Ohms (Analog), 100 Ohms (Digital)
Maximum PC Video Signal	950 mV with no damage to monitor
Maximum Mac Video Signal	1250 mV with no damage to monitor
Sync Signals	TTL
DDC 1/2B	Compliant with version 1.1
Sync Compatibility	Separate Sync / Composite Sync / SOG
Video Compatibility	Shall be compatible with all PC type computers, Macintosh computers, and after market video cards
Resolution Compatibility	Refer to Segment 4-5
Exclusions	Not compatible with interlaced video

2.4 POWER SUPPLY

Internal Power Supply	Mirage 860-AB0-190DTLB-PVH
Input Voltage Range	90 to 264 VAC
Input Frequency Range	47 to 63 Hertz
Short Circuit Protection	Output can be shorted without damage
Over Current Protection	5A typical at 14.0 VDC
Leakage Current	3.5mA (Max) at 254VAC / 60Hz
Efficiency(at 115VAC Full Load)	Typical: 80% Minimum: 75%
Fuse	Internal and not user replaceable
Power Dissipation	39 Watts (typ) / 49.2W (max)
Max Input AC Current	1.5 Arms @ 90VAC, 0.75 Arms @180VAC
Inrush Current (Cold Start)	50 A (max) @ 115VAC 90 A (max) @ 230VAC

<table>
<tr><td>Power Supply Cold Start</td><td>Shall start and function properly when under full load, with all combinations of input voltage, input frequency, and operating temperature.</td></tr>
<tr><td>Power Supply Transient Immunity</td><td>Shall be able to withstand an ANSI/IEEE C62.41-1980 6000V 200 ampere ring wave transient test with no damage.</td></tr>
<tr><td>Power Supply Line Surge Immunity</td><td>Shall be able to withstand 1.5 times nominal line voltage for one cycle with no damage.</td></tr>
<tr><td>Power Supply Missing Cycle Immunity</td><td>Shall be able to function properly, without reset or visible screen artifacts, when ½ cycle of AC power is randomly missing at nominal input.</td></tr>
<tr><td>Power Supply Acoustics</td><td>The power supply shall not produce audible noise that would be detectable by the user. Audible shall defined to be in compliance with ISO 7779 (DIN EN27779:1991) Noise measurements of machines acoustics. Power Switch noise shall not be considered.</td></tr>
<tr><td>Power Saving Operation(Method)</td><td>VESA DPMS Signaling</td></tr>
<tr><td>Power Consumption</td><td><table>
<tr><th>Mode</th><th>LED</th><th>Power Consumption</th></tr>
<tr><td>On</td><td>Blue</td><td>34W (typ)
36W (max)</td></tr>
<tr><td>Active off</td><td>Amber</td><td><2W</td></tr>
<tr><td>Off</td><td>Off</td><td><1W</td></tr>
</table></td></tr>
<tr><td>Recovery Time</td><td>ON Mode = N/A, ACTIVE OFF < 3 sec</td></tr>
</table>

2.5 ELECTRICAL REQUIREMENT

Horizontal / Vertical Frequency

Horizontal Frequency	30 – 82 kHz
Vertical Refresh Rate	56– 76 Hz.
Maximum Pixel Clock	135 MHz
Sync Polarity	Independent of sync polarity

Timing Table

Item	Timing	Analog			Digital - TMDS	Remark
		Separated	Composite	SOG		
1	640 x 350 @ 70 Hz, 31.5 KHz					DMT
2	640 x 400 @ 60 Hz, 31.5 KHz					
3	640 x 400 @ 70 Hz, 31.5 KHz					
4	640 x 480 @ 50 Hz, 24.7 KHz					
5	640 x 480 @ 60 Hz, 31.5 KHz					DMT
6	640 x 480 @ 67 Hz, 35 KHz					For MAC
7	640 x 480 @ 72 Hz, 37.9 KHz					DMT
8	640 x 480 @ 75 Hz, 37.5 KHz					DMT
9	720 x 400 @ 70 Hz, 31.5 KHz					
10	720 x 480 @ 60 Hz, 31.5 KHz					DTV
11	720 x 576 @ 50 Hz, 31.3 KHz					DTV
12	800 x 600 @ 56 Hz, 35.1 KHz					DMT
13	800 x 600 @ 60 Hz, 37.9 KHz					DMT
14	800 x 600 @ 72 Hz, 48.1 KHz					DMT
15	800 x 600 @ 75 Hz, 46.9 KHz					DMT
16	832 x 624 @ 75 Hz, 49.7 KHz					MAC
17	1024 x 768 @ 60 Hz, 48.4 KHz					DMT
18	1024 x 768 @ 70 Hz, 56.5 KHz					DMT
19	1024 x 768 @ 75 Hz, 60 KHz					DMT
20	1152 x 864 @ 75 Hz, 67.5 KHz					DMT
21	1152 x 870 @ 75 Hz, 68.7 KHz					For MAC
22	1152 x 900 @ 67 Hz, 62.5 KHz					For SUN
23	1280 x 720 @ 50 Hz, 37.5 KHz					DTV
24	1280 x 720 @ 60 Hz, 45 KHz					DTV
25	1280 x 768 @ 60 Hz, 47.8 KHz					DMT;
26	1280 x 768 @ 75 Hz, 60.3 KHz					DMT;
27	1280 x 960 @ 60 Hz, 59.7 KHz					DMT
28	1280 x 960 @ 75 Hz, 75.2 KHz					

29	1280 x 1024	@	60 Hz,	64	KHz					DMT
30	1280 x 1024	@	75 Hz,	80	KHz					DMT
31	1440 x 900	@	60 Hz	55.9	KHz					DMT

*1. Tolerance ≧ ±2KHz (if no overlapping issue)

*2. Any timing not in the list, it should display as normal or show on “OUT OF RANGE” OSD message without blanking.

*3. The image quality of 50Hz mode might be worse than 60Hz.

Primary Presets

1440x900 @ 60Hz

User Presets

Number of User Presets (recognized timings) Available: 10 presets total in FIFO configuration

Changing Modes

- Maximum Mode Change Blank Time for image stability : 5 seconds (Max), excluding “Auto Adjust” time
- Under DOS mode (640 x 350, 720 x 400 & 640 x 400), it should recall factory setting when execute “Auto Adjust”
- The monitor needs to do “Auto Adjust” the first time a new mode is detected (see section “0-Touch™ Function Actions”)
- While running Change Mode, Auto Adjust or Memory Recall, the image shall blank

2.6 FRONT PANEL CONTROLS AND INDICATORS

Front Panel Hardware Controls

Power Switch (Front Head)	Power Control, soft Power Switch.
Power LED (Front Head)	Blue – ON Orange – Power Saving Mode Dark = Soft Power Switch OFF
Front Panel Controls (Head) [◀X] [1] [▲] [▼] [2] [⏻]	◀X] Mute [⏻] Power [1] BUTTON 1 [2] Button 2 [▲] UP ARROW BUTTON [▼] DOWN ARROW BUTTON Note: Power Button, Button 1 and Button 2 must be one-shot logic operation. (i.e. there should be no cycling)
Reaction Time	OSD must fully appear within 0.5s after pushing Button 1

Short Cuts Function from the button(s)

[2]	Input toggle (Analog or Digital; refer to Appendix D)
[▼] or [▲]	Brightness/Contrast adjust
[▼]+ [▲]	recall both of Contrast and Brightness to default
[1] + [2]	toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode (70Hz only)
[1] + [▼] + [▲]	White Balance. (Not shown on user's guide)
[1] + [▼]	Power Lock
[1] + [▲]	OSD Lock
No signal + [2] + [⏻]	Burning mode
Signal + [2] + [⏻]	Factory Mode
Remark : All the short cuts function are only available while OSD off	

Function descriptions

Main Menu Controls The Main Menu OSD includes most of control functions. Please refer to APPENDIX C (Main Menu OSD Table) for the detail.
OSD Lock short cuts function for the buttons The OSD lock will be activated by pressing the front panel control buttons "(1), & (▲)" for 10 seconds. If the user then tries to access the OSD by pressing any of the buttons "1", "▼", "▲", "2" a message will appear on the screen for 3 seconds showing "OSD Locked". The OSD lock will be deactivated by pressing the front panel control buttons

"(1), & (▲)" again for 10 seconds.
Note1: When the OSD is locked will lock all functions, including “Volume” and “Mute”
Note 2: Status bar indicating OSD Lock or Unlock is in progress and when complete it will indicate “OSD Locked”
Note 3: OSD Lock should not lock Power Button and Power Lock function

Power Lock short cuts function for the buttons

The power button lock will be activated by pressing the front panel control buttons "(1), & (▼)" for 10 seconds. Locking the power button means that the user won't be able to turn off the LCD while the power button is locked. If the user presses the power button while it is locked, a message will appear on the screen for 3 seconds showing "Power Button Locked". It also means that with the power button locked, the LCD would automatically turn back "On" when power is restored after a power failure. If the power button is not in the locked mode, then power should return to it's previous state when power is restored after a power failure. The power button lock will be deactivated by pressing the front panel control buttons "(1), & (▼)" again for 10 seconds.

Note 1: Status bar indicating Power Button lock or unlock is in progress and when complete it will indicate “Power Button Locked”
Note 2: Power should only be lockable in the “On State”

Memory Recall Actions

Memory Recall action on the analog and digital mode as below
1. Recall white balance to factory setting
2. Set the factory defaults as shown in Section 4-8
3. Clean all the mode setting buffer
4. Execute Auto Image Adjust

Note: Memory Recall should have no effect for Language, Power Lock, User Color Settings or Input Priority

Input Signal Notice Actions

1. The Input Signal Notice OSD appears 3 seconds when power turns on or change input signal.
2. The Input Signal Notice OSD position is on the right-bottom side of image. And the OSD background shall be transparent. (OSD Background = off).

Resolution Notice Actions

1. Resolution Notice OSD should show on screen after changing to non-native mode for 30 sec
2. For auto input select function, it shall meet the requirement in Appendix D.
3. The OSD should disappear after 10 sec or by pushing button [1] or [2]

Resolution Notice function should be disabled when push button [2] under Resolution Notice OSD

0-Touch™ Function Actions 1. Execute Auto Image Adjust when new mode detected, and save the settings to buffer for further use 2. It should be reset by Memory Recall function (Should not reset by power off, power unplug and others)
OSD Auto Save The OSD shall save new settings when it is turned off by the user or when it times out. There shall not be a separate save

Factory Defaults

Item	Defaults	Item	Defaults
Contrast	70%	Input Priority	N/A
Brightness	100%	Resolution Notice	On
Color Temperature	6500K	Volume	50%
Sharpness	100%	Balance	N/A
OSD H. Position	50%	Treble	N/A
OSD V. Position	50%	Bass	N/A
OSD Time Out	15	720x400 / 640x400	720x400
OSD Background	On		

2.7 AUDIO INTERFACE (SPEAKER SPECIFICATION)

Line input connection	3.5 mm stereo jack
Line input signal	1.0 Vrms
Line input impedance	10 kOhm
Maximum power output (Electric)	1.5 W / ch
Signal to Noise Ratio	50 dB
Frequency response	100 Hz – 20 Khz
Distortion	< 10 % THD (@1kHz)
Vibration	There should be no audible vibration with volume at 100% and treble / bass at default.
Screen image	There should be no affect on the screen image stability under any conditions.
Connector PC99 requirement Audio in	Lime Green pantone # 577C
Cable type / length	3.5mm stereo cable / 1.8m length
Audio DPMS	Speakers should be off when the rest of the monitor is in power saving.

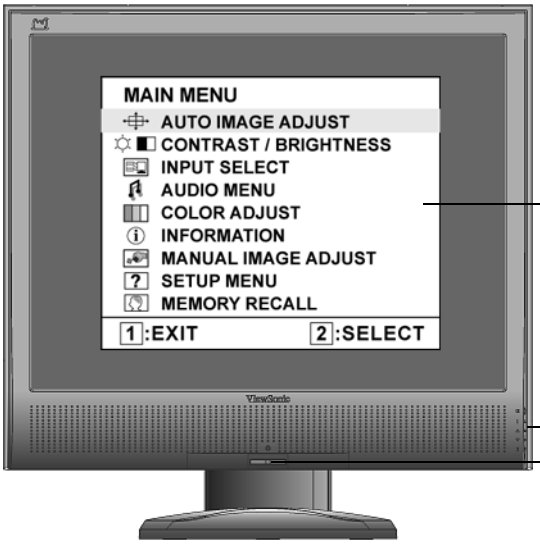
* No any sympathetic or abnormal noise allowed.

TFT LCD PANEL

1st Source Panel

Model number	CMO M190A1-L02
Type	Active Matrix TFT, TN technology
Active Size	19” Wide (410.4mm x 256.5mm)
Pixel Arrangement	RGB Vertical Stripe
Pixel Pitch	0.285 mm
Glass Treatment	Anti-Glare, Hard coating (3H)
# of Backlights	4 CCFL
Backlight Life	40000 Hrs (Min)
Luminance (Center) – CT = 6500K, Contrast/ Brightness = Max	300 cd/m2 (Typ after 30 minute warm up) 230 cd/m2 (Min after 30 minute warm up)
Brightness Uniformity (13 points)	77 % (Typ) / 67 % (Min)
Contrast Ratio	700 :1 (Typ) 500 : 1 (Min)
Color Depth	16.2 million colors (6+2 bit panel)
Horizontal Viewing Angle	150 degrees (Typ) / 130 degrees (Min) @ CR>10
Vertical Viewing Angle	130 degrees (Typ) / 120 degrees (Min) @ CR>10
Response Time 10%-90% @ Ta=25°C	**On-Off** 5ms (Typ) / 15ms (Max)
Mercury	3.0 mg per lamp
Panel Defects	Please see Panel Quality Specifications.

Adjusting the Screen Image



Main Menu
with OSD controls

Front Control Panel
shown below in detail

Standby Power On/Off
Power light
Blue = ON
Orange = Power Saving

Audio Mute button turns the sound off

1

Displays the Main Menu or exits the control screen and saves adjustments.

△
▽

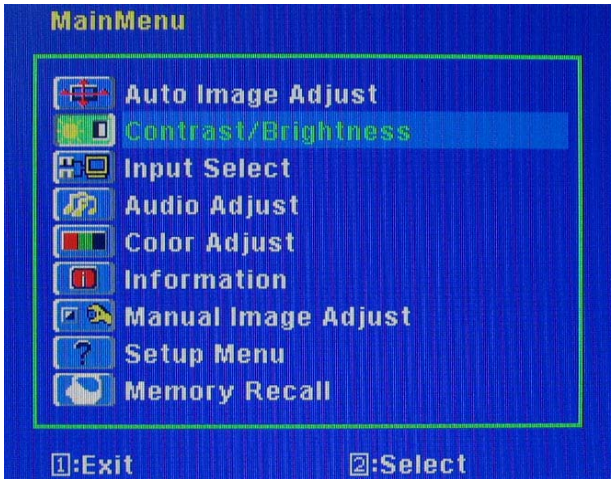
Scrolls through menu options and adjusts the displayed control.
Also a shortcut to display the Contrast adjustment control screen.

2

Displays the control screen for the highlighted control.
Also toggles between two controls on some screens.
Also a shortcut to toggle analog and digital connection.

Do the following to adjust the display setting:

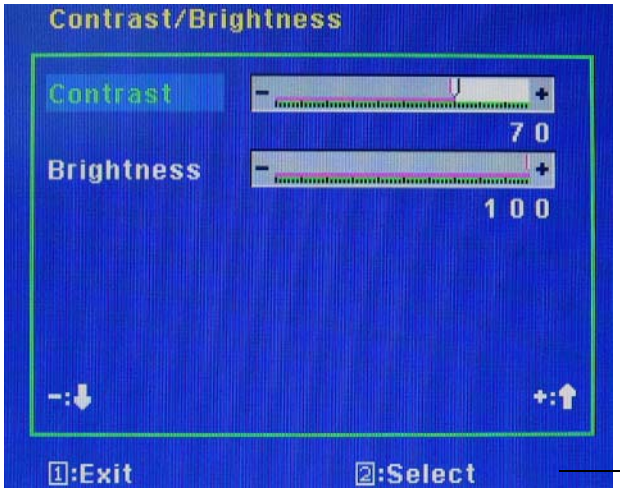
1. To display the Main Menu, press button [1].



NOTE: All OSD menus and adjustment screens disappear automatically after about 15 seconds. This is adjustable through the OSD timeout setting in the setup menu.

2. To select a control to adjust, press▲or▼to scroll up or down in the Main Menu.

3. After the desired control is selected, press button [2]. A control screen like the one shown below appears.



The command line at the bottom of the control screen tells what to do next from this screen. You can toggle between control screens, adjust the selected option, or exit the screen.

4. To adjust the setting, press the up ▲ or down ▼ buttons.

5. To save the adjustments and exit the menu, press button [1] *twice*.

The following tips may help you optimize your display:

- Adjust the computer's graphics card so that it outputs a 1440 x 900 @ 60Hz video signal to the LCD display. (Look for instructions on "changing the refresh rate" in the graphics card's user guide.)
- If necessary, make small adjustments using H. POSITION and V. POSITION until the screen image is completely visible. (The black border around the edge of the screen should barely touch the illuminated "active area" of the LCD display.)

Main Menu Controls

Adjust the menu items shown below by using the up ▲ and down ▼ buttons.

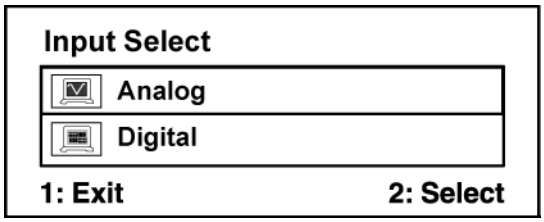
Control	Explanation

Auto Image Adjust sizes and centers the screen image automatically.

Contrast adjusts the difference between the image background (black level) and the foreground (white level).

Brightness adjusts background black level of the screen image.

Input Select toggles between inputs if you have more than one computer connected to the VG1930wm.

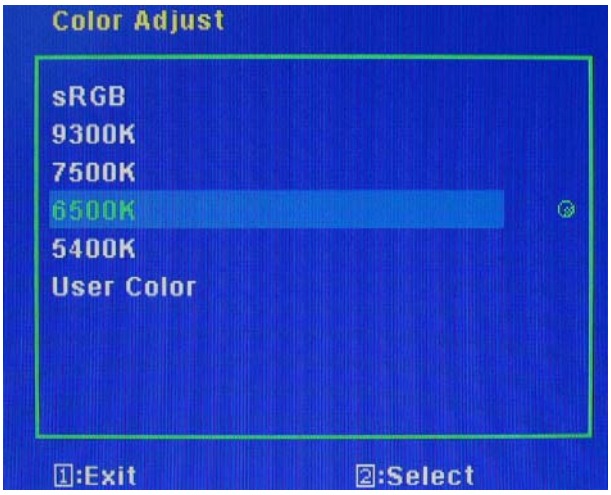


Audio Adjust

Volume increases the volume, decreases the volume, and mutes the audio.

Mute temporarily silences audio output.

Color Adjust provides several color adjustment modes, including preset color temperatures and a User Color mode which allows independent adjustment of red (R), green (G), and blue (B). The factory setting for this product is 6500K (6500 Kelvin).



sRGB-This is quickly becoming the industry standard for color management, with support being included in many of the latest applications. Enabling this setting allows the LCD display to more accurately display colors the way they were originally intended. Enabling the sRGB setting will cause the Contrast and Brightness adjustments to be disabled.

9300K-Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

6500K-Adds red to the screen image for warmer white and richer red.

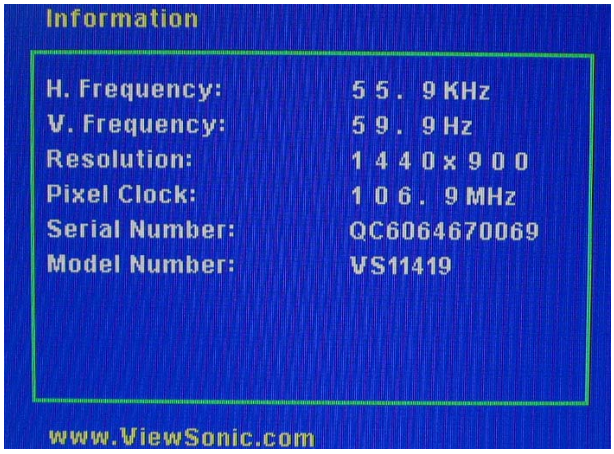
5400K-Adds green to the screen image for a darker color.

5000K-Adds blue and green to the screen image for a darker color.

User Color Individual adjustments for red (R), green (G), and blue (B).
1. To select color (R, G or B) press button [2].
2. To adjust selected color, press▲and▼.

Important: If you select RECALL from the Main Menu when the product is set to a Preset Timing Mode, colors return to the 6500K factory preset.

Information displays the timing mode (video signal input) coming from the graphics card in the computer, the LCD model number, the serial number, and the ViewSonic® website URL. See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency).
NOTE: VESA 1680 x 1050 @ 60Hz (recommended) means that the resolution is 1680 x 1050 and the refresh rate is 60 Hertz.



Manual Image Adjust Sub-menu

Control	Explanation

H. Size (Horizontal Size) adjusts the width of the screen image.

H./V. Position (Horizontal/Vertical Position) moves the screen image left or right and up or down.

Fine Tune sharpens the focus by aligning text and/or graphics with pixel boundaries.

NOTE: Try Auto Image Adjust first.

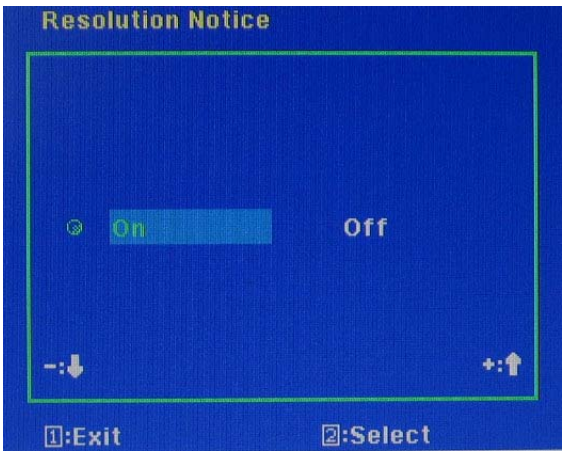
Sharpness adjusts the clarity and focus of the screen image.

Setup Menu displays the menu shown below:

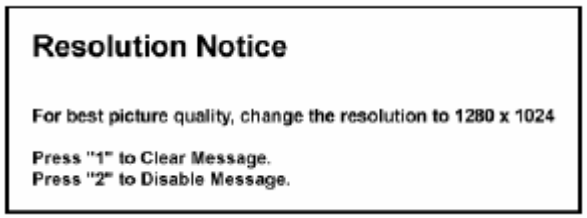
Language Select allows the user to choose the language used in the menus and control screens.

Control	Explanation

Resolution Notice allows the user to enable or disable this notice.



If you enable the Resolution Notice shown above and your computer is set at a resolution other than 1440 x 900, the following screen appears.


Resolution Notice
For best picture quality, change the resolution to 1280 x 1024
Press "1" to Clear Message.
Press "2" to Disable Message.

OSD Position allows the user to move the OSD menus and control screens.

OSD Timeout sets the length of time the OSD screen is displayed. For example, with a “30 second” setting, if a control is not pushed within 30 seconds, the display screen disappears.

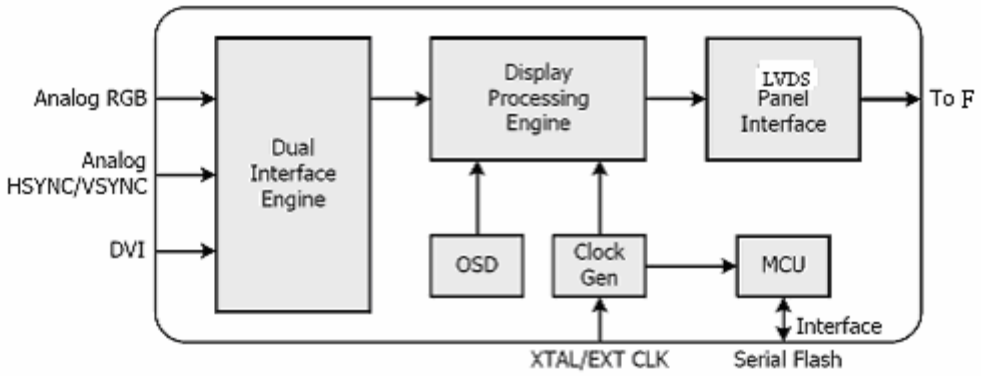
OSD Background allows the user to turn the OSD background On or Off.

Memory Recall returns the adjustments back to factory settings if the display is operating in a factory Preset Timing Mode listed in the Specifications of this manual.

4. Circuit Description

The TSUM56AL is total solution graphics processing IC for LCD monitors with panel resolutions up to SXGA. It is configured with a high-speed integrated triple-ADC/PLL, an integrated DVI receiver, a high quality display processing engine, and an integrated output display interface that can support LVDS panel interface format. To further reduce system costs, the TSUM56AWHL-LF-1 also integrates intelligent power management control capability for green-mode requirements and spread- spectrum support for EMI management.

The TSUM56AL incorporates the world's first coherent oversampled RGB graphics ADC in a monitor controller system. The oversampling ADC samples the input RGB signals at a frequency that is much higher than the signal source pixel rate. This can preserve details in the video signal that ordinarily would be lost due to input signal jitter or bandwidth limitations in non-oversampled systems. The TSUM56AL also incorporates a new Dynamic Frame Rate (DFR) generator for the digital output video to the display panel that preserves the advantages of a fixed output clock rate, while eliminating the output end of frame short-line.



Analog EDID

Time: 15:51:56

Date: Mon Oct 23, 2006

VIEWSONIC CORPORATION

EDID Version # 1, Revision # 3

DDCTest For: ViewSonic VG1930wm

EDID Block 0, Bytes 0-127

128 BYTES OF EDID CODE:

	0	1	2	3	4	5	6	7	8	9
0	00	FF	FF	FF	FF	FF	FF	00	5A	63
10	1E	9D	01	01	01	01	01	10	01	03
20	0E	29	1A	78	2E	E5	B5	A3	55	49
30	99	27	13	50	54	BF	EF	80	95	00
40	95	0F	81	80	81	40	71	4F	01	01
50	01	01	01	01	9A	29	A0	D0	51	84
60	22	30	50	98	36	00	9A	00	11	00
70	00	1C	00	00	00	FF	00	51	43	36
80	30	36	30	31	30	30	30	30	31	0A
90	00	00	00	FD	00	32	4B	1E	52	0E
100	00	0A	20	20	20	20	20	20	00	00
110	00	FC	00	56	47	31	39	33	30	77
120	6D	0A	20	20	20	20	00	DD		

(08-09) ID Manufacturer Name _____ = VSC

(11-10) Product ID Code _____ = 9D1E

(12-15) Last 5 Digits of Serial Number _____ = Not Used

(16) Week of Manufacture _____ = 01

(17) Year of Manufacture _____ = 2006

(10-17) Complete Serial Number _____ = See Descriptor Block

(18) EDID Version Number _____ = 1

(19) EDID Revision Number _____ = 3

(20) VIDEO INPUT DEFINITION:

Analog Signal

0.700, 0.300 (1.000 Vp-p)

Separate Syncs, Composite Sync, Sync on Green

(21) Maximum Horizontal Image Size _____ = 410 mm

(22) Maximum Vertical Image Size _____ = 260 mm

(23) Display Gamma _____ = 2.20

(24) Power Management and Supported Feature(s):

Active Off/Very Low Power, Standard Default Color Space,

Preferred Timing Mode

Display Type = R/G/B Color

(25-34) CHROMA INFO:

Red X - 0.640 Green X - 0.286 Blue X - 0.154 White X - 0.313

Red Y - 0.334 Green Y - 0.599 Blue Y - 0.077 White Y - 0.329

(35) ESTABLISHED TIMING I:

720 X 400 @ 70Hz (IBM,VGA)

640 X 480 @ 60Hz (IBM,VGA)

640 X 480 @ 67Hz (Apple,Mac II)

640 X 480 @ 72Hz (VESA)

640 X 480 @ 75Hz (VESA)

800 X 600 @ 56Hz (VESA)

800 X 600 @ 60Hz (VESA)

(36) ESTABLISHED TIMING II:

800 X 600 @ 72Hz (VESA)

800 X 600 @ 75Hz (VESA)

832 X 624 @ 75Hz (Apple,Mac II)

1024 X 768 @ 60Hz (VESA)

1024 X 768 @ 70Hz (VESA)

1024 X 768 @ 75Hz (VESA)

1280 X 1024 @ 75Hz (VESA)

(37) Manufacturer's Reserved Timing:

1152 X 870 @ 75Hz (Apple,Mac II)

(38-53) Standard Timing Identification:

1440 X 900 @60Hz

1440 X 900 @75Hz

1280 X 1024 @60Hz

1280 X 960 @60Hz

1152 X 864 @75Hz

Not Used

Not Used

Not Used

(54-71) Detailed Timing / Descriptor Block 1:

1440x900 Pixel Clock: 106.50 MHz

Horizontal Image Size: 410 mm Vertical Image Size: 256 mm

Refreshed Mode: Non-Interlaced Normal Display - No Stereo

Horizontal:

Active Time: 1440 pixels Blanking Time: 464 pixels
Sync Offset: 80 pixels Sync Pulse Width: 152 pixels
Border: 0 pixels Frequency: 55.93 KHz

Vertical:
Active Time: 900 lines Blanking Time: 34 lines
Sync Offset: 3 lines Sync Pulse Width: 6 lines
Border: 0 lines Frequency: 59.89 Hz

Digital Separate, Horizontal Polarity (-) Vertical Polarity (+)

(72-89) Detailed Timing / Descriptor Block 2:

Monitor Serial Number:
QC6060100001

(90-107) Detailed Timing / Descriptor Block 3:

Monitor Range Limits:
Min Vertical Freq - 50 Hz
Max Vertical Freq - 75 Hz
Min Horiz. Freq - 30 KHz
Max Horiz. Freq - 82 KHz
Pixel Clock - 140 MHz
Secondary GTF - Not Supported

(108-125) Detailed Timing / Descriptor Block 4:

Monitor Name:
VG1930wm

(126) No Extension EDID Block(s)
(127) CheckSum OK

Time: 15:52:31

Date: Mon Oct 23, 2006

VIEWSONIC CORPORATION

EDID Version # 1, Revision # 3

DDCTest For: ViewSonic VG1930wm

EDID Block 0, Bytes 0-127

128 BYTES OF EDID CODE:

	0	1	2	3	4	5	6	7	8	9
0	00	FF	FF	FF	FF	FF	FF	00	5A	63
10	1E	9D	01	01	01	01	01	10	01	03
20	80	29	1A	78	2E	E5	B5	A3	55	49
30	99	27	13	50	54	BF	EF	80	95	00
40	95	0F	81	80	81	40	71	4F	31	0A
50	01	01	01	01	9A	29	A0	D0	51	84
60	22	30	50	98	36	00	9A	00	11	00
70	00	1C	00	00	00	FF	00	51	43	36
80	30	36	30	31	30	30	30	30	31	0A
90	00	00	00	FD	00	32	4B	1E	52	0E
100	00	0A	20	20	20	20	20	20	00	00
110	00	FC	00	56	47	31	39	33	30	77
120	6D	0A	20	20	20	20	00	32		

(08-09) ID Manufacturer Name _____ = VSC

(11-10) Product ID Code _____ = 9D1E

(12-15) Last 5 Digits of Serial Number _____ = Not Used

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(17) Year of Manufacture _____ = 2006

(10-17) Complete Serial Number _____ = See Descriptor Block

(18) EDID Version Number _____ = 1

(19) EDID Revision Number _____ = 3

(20) VIDEO INPUT DEFINITION:

Digital Signal

Non - VESA DFP 1.x Compatible

(21) Maximum Horizontal Image Size _____ = 410 mm

(22) Maximum Vertical Image Size _____ = 260 mm

(23) Display Gamma _____ = 2.20

(24) Power Management and Supported Feature(s):

Active Off/Very Low Power, Standard Default Color Space,
Preferred Timing Mode
Display Type = R/G/B Color

(25-34) CHROMA INFO:

Red X - 0.640 Green X - 0.286 Blue X - 0.154 White X - 0.313
Red Y - 0.334 Green Y - 0.599 Blue Y - 0.077 White Y - 0.329

(35) ESTABLISHED TIMING I:

720 X 400 @ 70Hz (IBM,VGA)
640 X 480 @ 60Hz (IBM,VGA)
640 X 480 @ 67Hz (Apple,Mac II)
640 X 480 @ 72Hz (VESA)
640 X 480 @ 75Hz (VESA)
800 X 600 @ 56Hz (VESA)
800 X 600 @ 60Hz (VESA)

(36) ESTABLISHED TIMING II:

800 X 600 @ 72Hz (VESA)
800 X 600 @ 75Hz (VESA)
832 X 624 @ 75Hz (Apple,Mac II)
1024 X 768 @ 60Hz (VESA)
1024 X 768 @ 70Hz (VESA)
1024 X 768 @ 75Hz (VESA)
1280 X 1024 @ 75Hz (VESA)

(37) Manufacturer's Reserved Timing:

1152 X 870 @ 75Hz (Apple,Mac II)

(38-53) Standard Timing Identification:

1440 X 900 @60Hz
1440 X 900 @75Hz
1280 X 1024 @60Hz
1280 X 960 @60Hz
1152 X 864 @75Hz
640 X 400 @70Hz
Not Used
Not Used

(54-71) Detailed Timing / Descriptor Block 1:

1440x900 Pixel Clock: 106.50 MHz

Horizontal Image Size: 410 mm Vertical Image Size: 256 mm
Refreshed Mode: Non-Interlaced Normal Display - No Stereo

Horizontal:

Active Time: 1440 pixels Blanking Time: 464 pixels

Sync Offset: 80 pixels Sync Pulse Width: 152 pixels
Border: 0 pixels Frequency: 55.93 KHz

Vertical:
Active Time: 900 lines Blanking Time: 34 lines
Sync Offset: 3 lines Sync Pulse Width: 6 lines
Border: 0 lines Frequency: 59.89 Hz

Digital Separate, Horizontal Polarity (-) Vertical Polarity (+)

(72-89) Detailed Timing / Descriptor Block 2:

Monitor Serial Number:
QC6060100001

(90-107) Detailed Timing / Descriptor Block 3:

Monitor Range Limits:
Min Vertical Freq - 50 Hz
Max Vertical Freq - 75 Hz
Min Horiz. Freq - 30 KHz
Max Horiz. Freq - 82 KHz
Pixel Clock - 140 MHz
Secondary GTF - Not Supported

(108-125) Detailed Timing / Descriptor Block 4:

Monitor Name:
VG1930wm

(126) No Extension EDID Block(s)
(127) CheckSum OK

5. Adjustment Procedure

Function Test and Alignment Procedure

1. All Modes Reset

You should do "All Model Reset" (Refer to Chap 3. Hot Keys for Function Controls) first. This action will allow you to erase all end-user's settings and restore the factory defaults.

2. Auto Image Adjust

The Auto Adjust is aimed to offer a best screen quality by built-in ASIC. For optimum screen quality, the user has to adjust each function manually.

A.Turn the computer and LCD monitor on.

B. Press the '**Auto Image Adjust**' OSD function to Auto Adjust.

C. The LCD monitor will start the Auto Adjust process automatically and run for 10 consecutive seconds, during which time you will notice the image change.

3. Firmware

Test Patten: Burn in Model (Refer to Chap3. Hot Keys for Function Control)
-Make sure the F/W is the latest version.

4. DCC

Test Patten: EDID program
-Make sure it can pass test program.

5. Window Shut Down

Test Signal: 1400*900@60Hz
Test Pattern:

Checkered Pattern Every One Pixel (50%Green & 50%Blue)
Inspection Item: Flicker, Mura

6. Window BG

Test Signal: 1400*900@60Hz
Test Pattern:

Window standard pattern
Inspection Item: Line Defect, Function Defect & Mura

7. 25 Gray

Test Signal: 1400*900@60Hz
Test Pattern:

Full Screen 25% White (Gray)
Inspection Item: Particle, Line Defect & Mura

8. 50 Gray

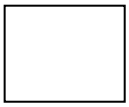
Test Signal: 1400*900@60Hz
Test Pattern:

Full Screen 50% White (Gray)
Inspection Item: Bright Dot, Particle, Line Defect & Mura

9. White Box

Test Signal: 1400*900@60Hz

Test Pattern:



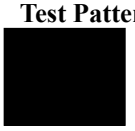
Window standard pattern

Inspection Item: Particle, Line Defect, Power, Image Remain & Mura

10. Black Box

Test Signal: 1400*900@60Hz

Test Pattern:



Window standard pattern

Inspection Item: Bright Dot, Line Defect & Power

11. RED

Test Signal: 1400*900@60Hz

Test Pattern:

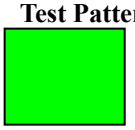
Full Screen Red

Inspection Item: Bright Dot, Partial & Line Defect

12. Green

Test Signal: 1400*900@60Hz

Test Pattern:



Full Screen Green

Inspection Item: Bright Dot, Partial & Line Defect

13. Blue

Test Signal: 1400*900@60Hz

Test Pattern:

Full Screen Green

Inspection Item: Bright Dot, Partial & Line Defect

14. Gray_Scale_0-100_V64

Test Signal: 1400*900@60Hz

Test Pattern:

Vertical 64 (256) Gray Scale (Right → Left，From 0 to 100% White)

Inspection Item: Line Defect & Function Defect

15. Function Test Display pattern

Item	Pattern	Description	Remark
1	Gray_Scale_0-100_V	Vertical 64 (256) Gray Scale (右→左，From 0 to 100% White)	Figure 1
2	Gray_Scale_0-100_H	Horizontal 64 (256) Gray Scale (上→下，From 0 to 100% White)	Figure 2
3	Black	Full Screen Black	Figure 3
4	Red	Full Screen 50% Red	Figure 4
5	Green	Full Screen 50% Green	Figure 5
6	Blue	Full Screen 50% Blue	Figure6
7	White	Full Screen White	Figure7
8	Black_Tile	Black Tile Under White Background	Figure 8

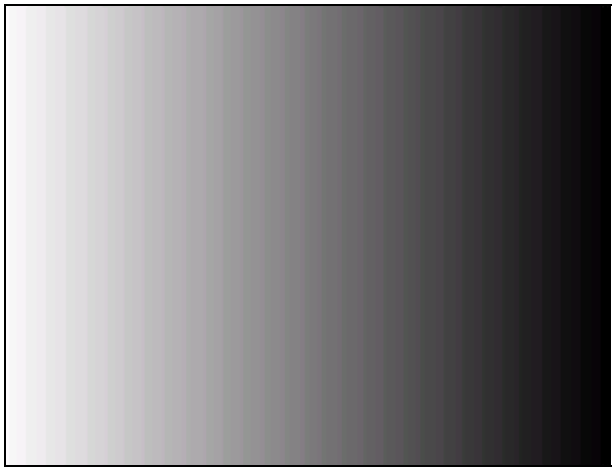


Figure 1

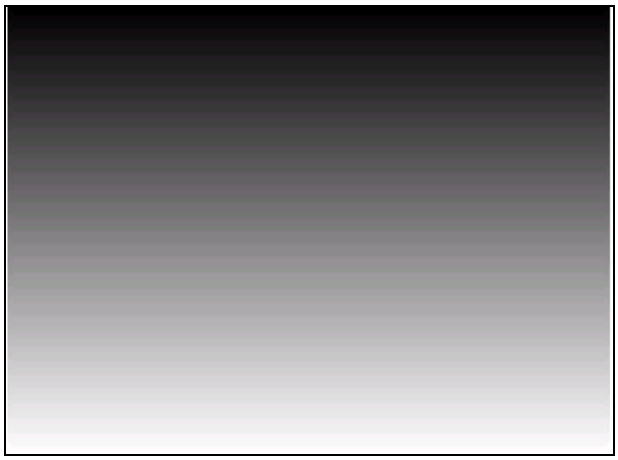


Figure 2

Figure 3

Figure 4

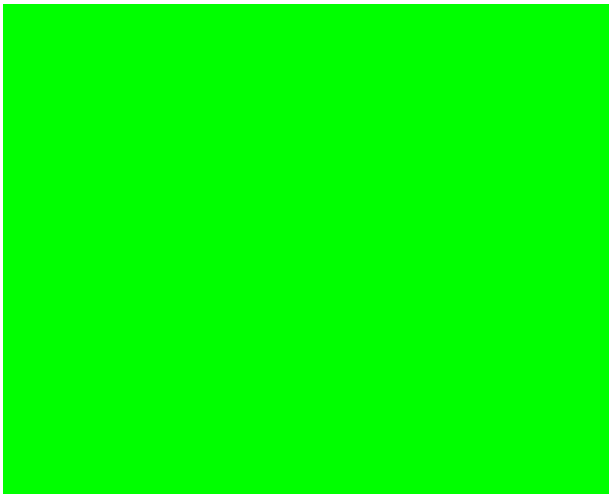


Figure 5

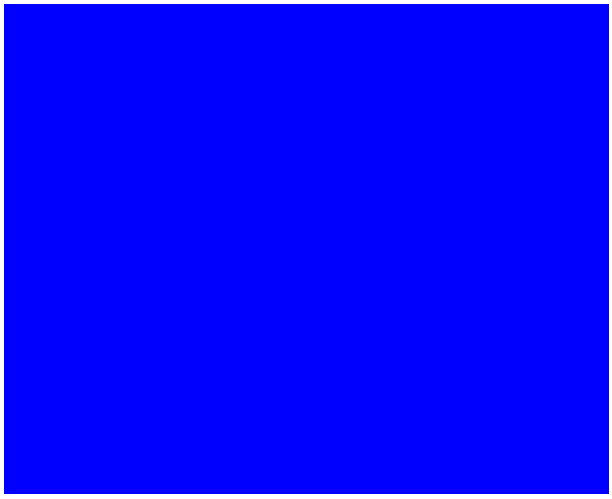


Figure 6

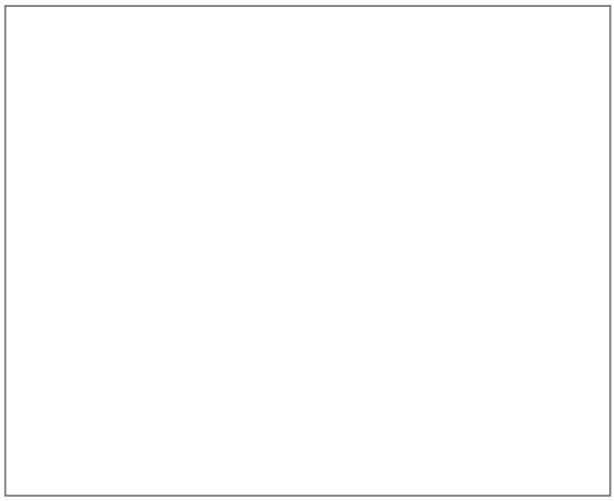


Figure 7

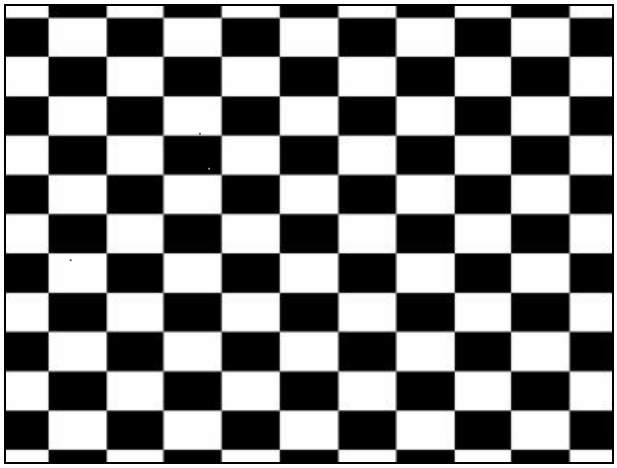


Figure 8

BIOS update procedure

1. To setup ISP environment

Fig1

Hardware:

PC or Notebook , Parallel(Printer) cable , ISP tool(Fig 1)

Software:

ISP driver .

If the O.S. was Win2000 or Win XP please have to install PORT95NT.exe

In order to ensure can execute ISP program, please set BIOS in PC or Notebook as Fig 2

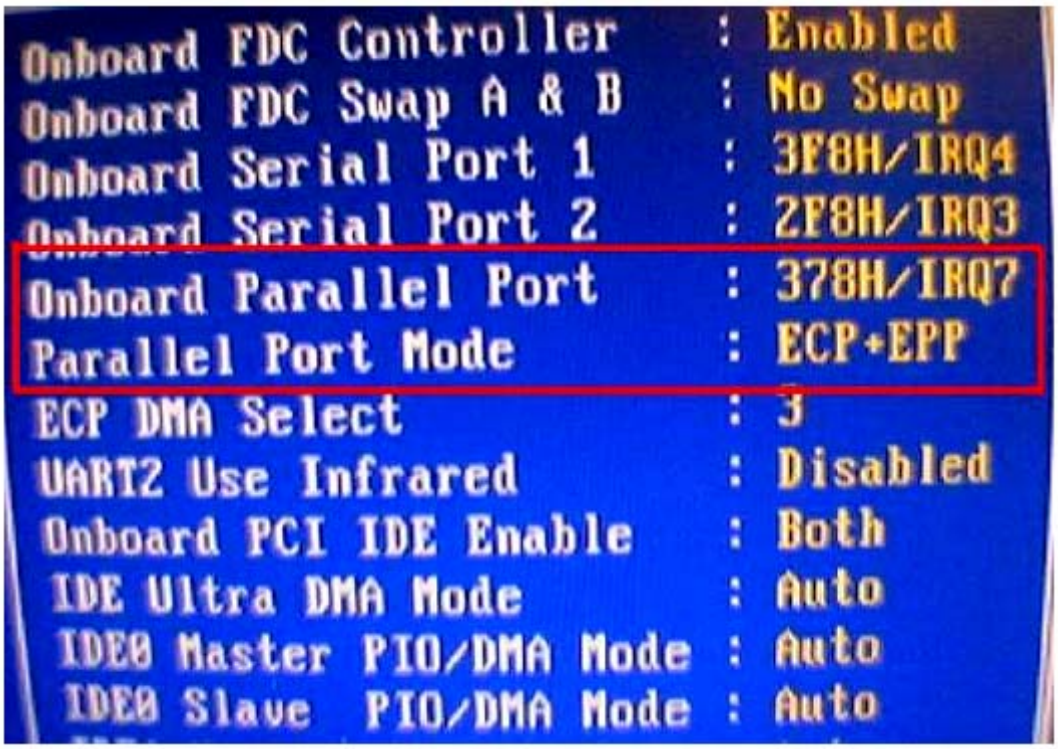

Onboard FDC Controller : Enabled
Onboard FDC Swap A & B : No Swap
Onboard Serial Port 1 : 3F8H/IRQ4
Onboard Serial Port 2 : 2F8H/IRQ3
Onboard Parallel Port : 378H/IRQ7
Parallel Port Mode : ECP+EPP
ECP DMA Select : 3
UART2 Use Infrared : Disabled
Onboard PCI IDE Enable : Both
IDE Ultra DMA Mode : Auto
IDE0 Master PIO/DMA Mode : Auto
IDE0 Slave PIO/DMA Mode : Auto

Fig 2

2. Install ISP

2.1 User could download ISP driver and PORT95NT install file from Myson Century website (http://www.myson.com.tw/)

2.2 After extracting the zip file, the total files list as Fig 2.2, and double click the file of setup.exe to install.

Fig 2.2

2.3 Press "Next" button to continue., see Fig 2.3

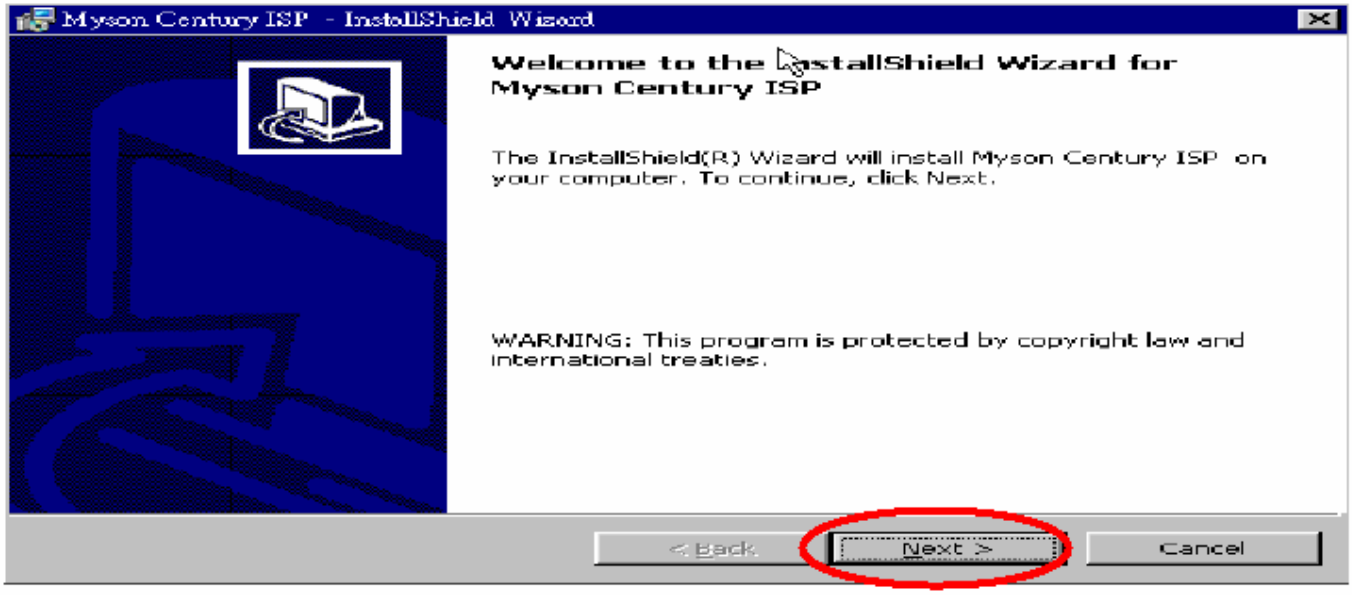

Myson Century ISP - InstallShield Wizard
Welcome to the InstallShield Wizard for Myson Century ISP
The InstallShield(R) Wizard will install Myson Century ISP on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

Fig 2.3

2.4 Keep default setting or press “Change” button for selecting the path that you want , and then press “Next” button to continue, see Fig 2.4.

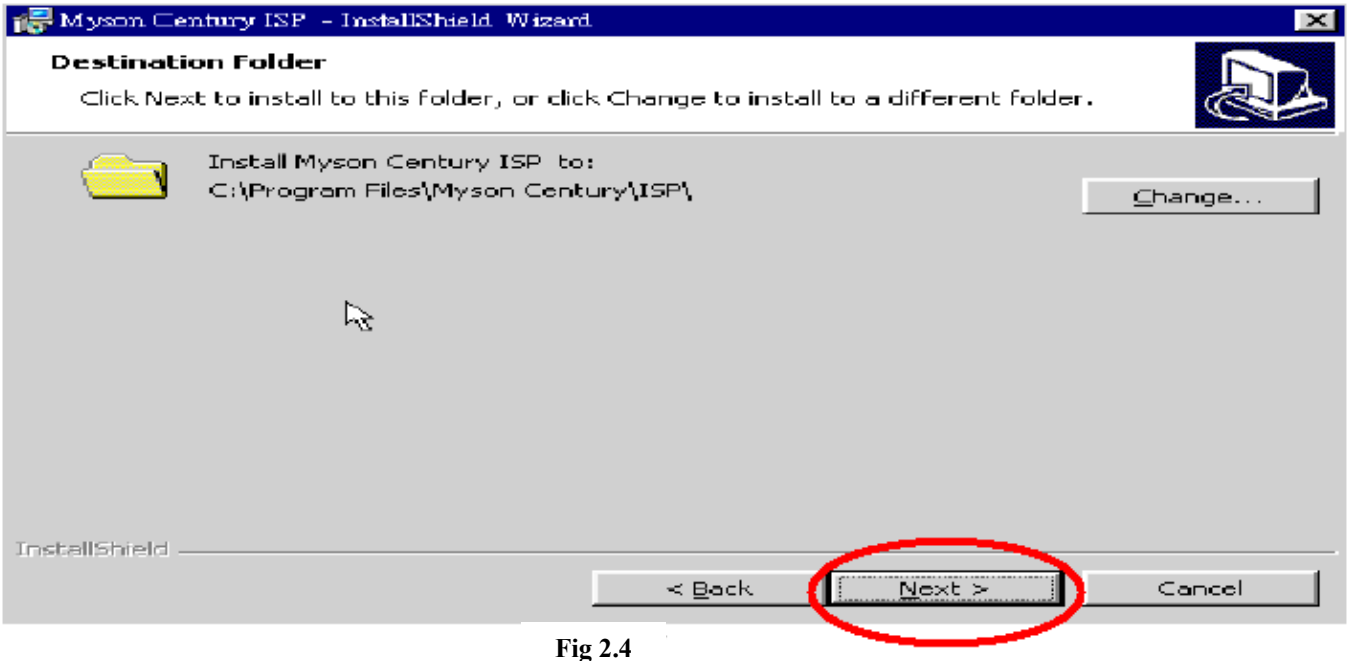

Myson Century ISP - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install Myson Century ISP to:
C:\Program Files\Myson Century\ISP\
Change...
InstallShield
< Back
Next >
Cancel

Fig 2.4

2.5 Press “Install” button to continue, see Fig 2.5

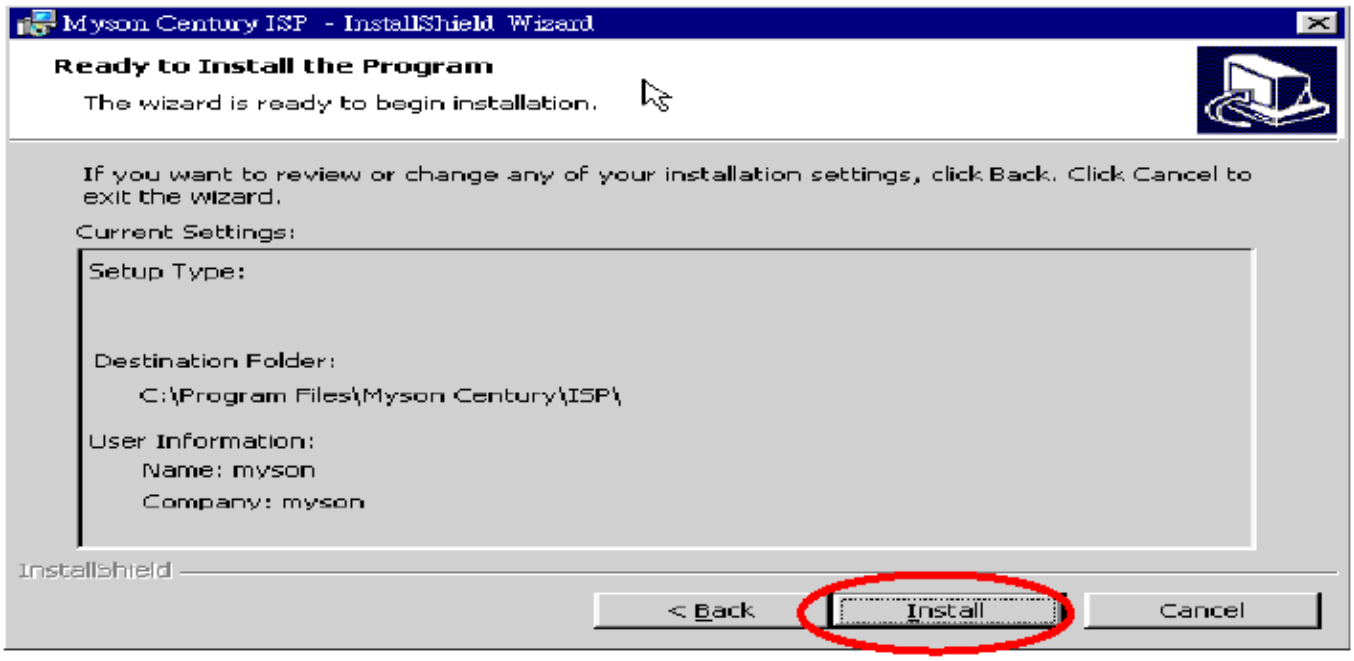


Fig 2.5

2.6 The Installer Information shows package warning, press “Ignore” button to continue, see Fig 2.6.

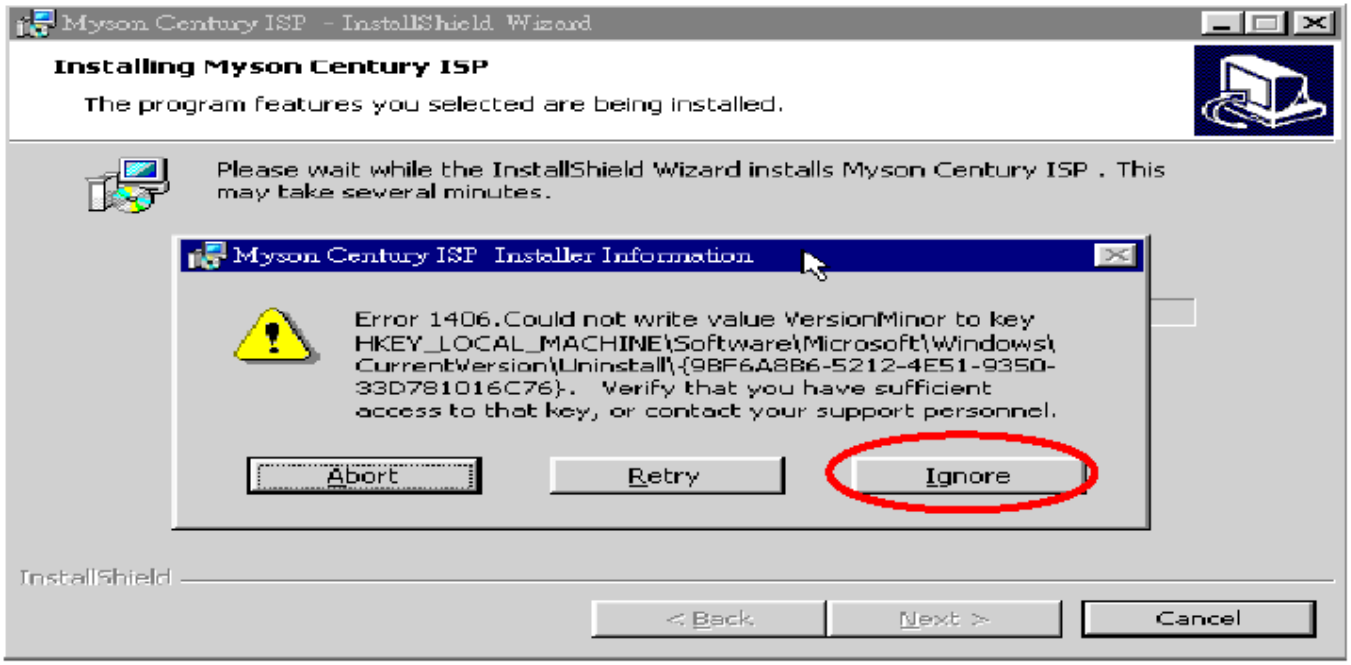

Myson Century ISP - InstallShield Wizard
Installing Myson Century ISP
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs Myson Century ISP . This may take several minutes.
Myson Century ISP Installer Information
Error 1406.Could not write value VersionMinor to key HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Uninstall\{98F6A8B6-5212-4E51-9350-33D781016C76}. Verify that you have sufficient access to that key, or contact your support personnel.
Abort
Retry
Ignore
InstallShield
< Back
Next >
Cancel

Fig 2.6

2.7 Installation has finished, press “Finish” button, see Fig 2.7.

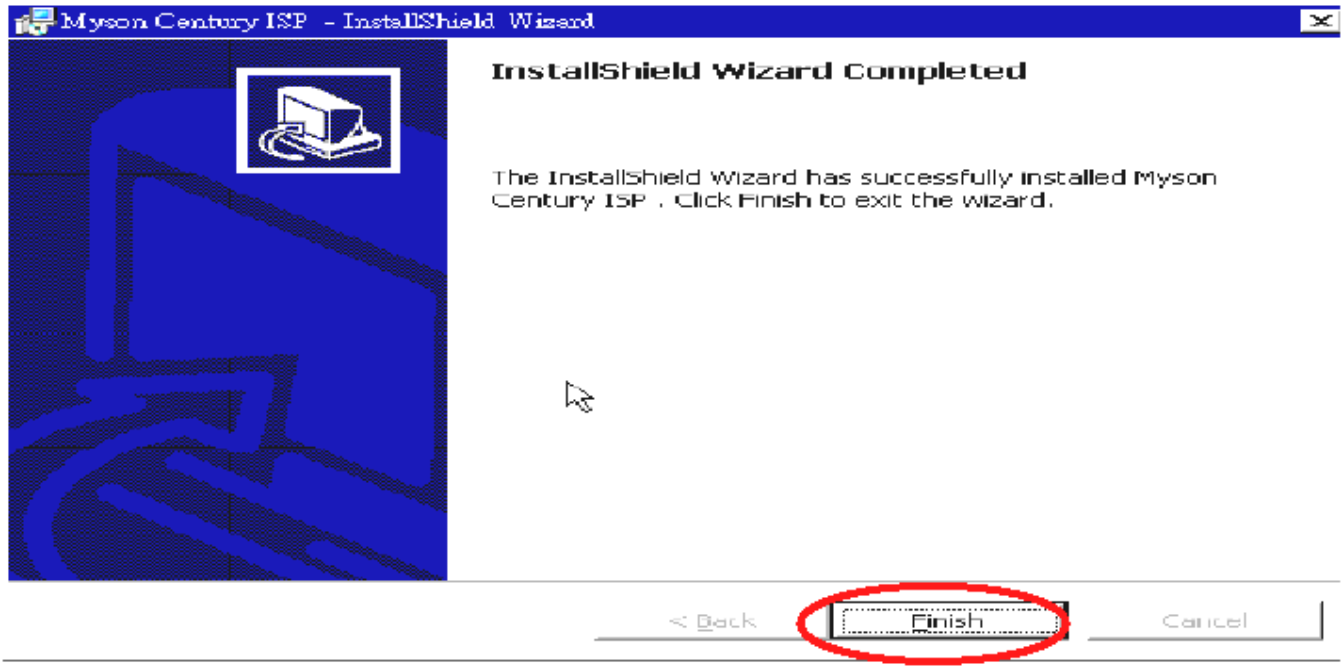

Myson Century ISP - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Myson Century ISP . Click Finish to exit the wizard.
< Back
Finish
Cancel

Fig 2.7

3. ISP security code

3.1 After installation, we could find the shortcut in the setting path or the program bar (default setting), see Fig 3.1.

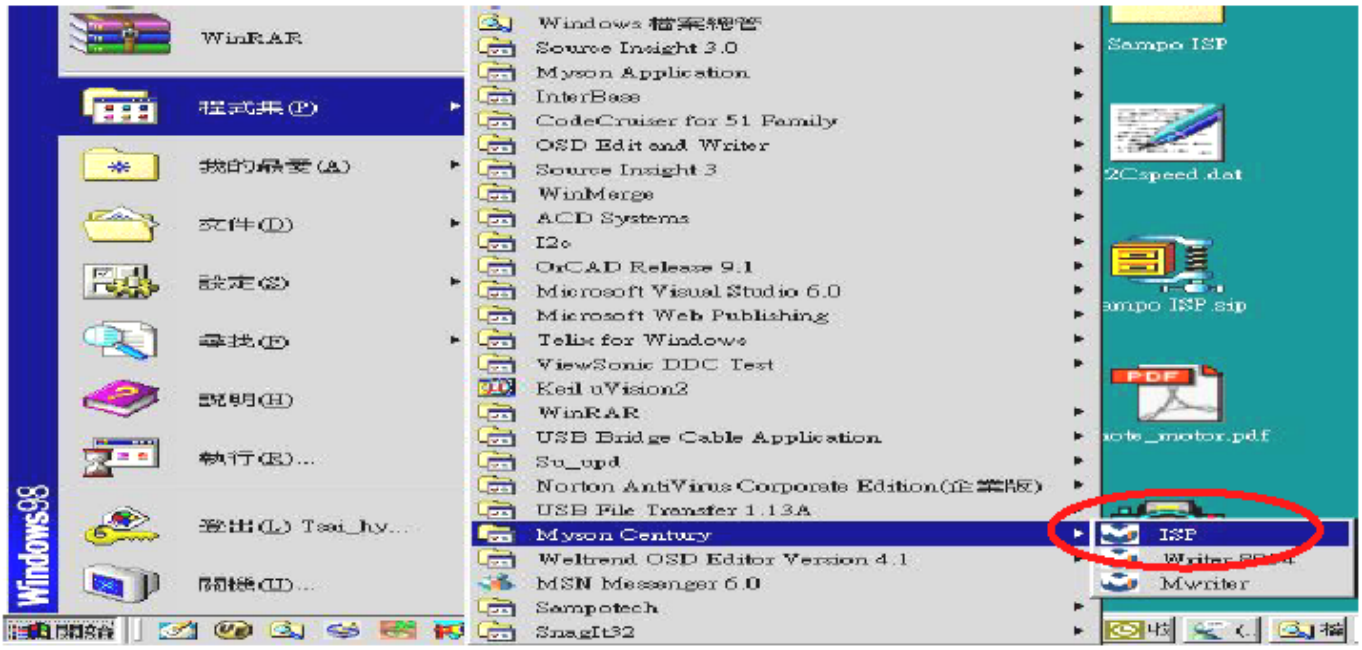


Fig 3.1

2.2 Security file is a key to use ISP function, press “確定” button, see Fig 3.2.

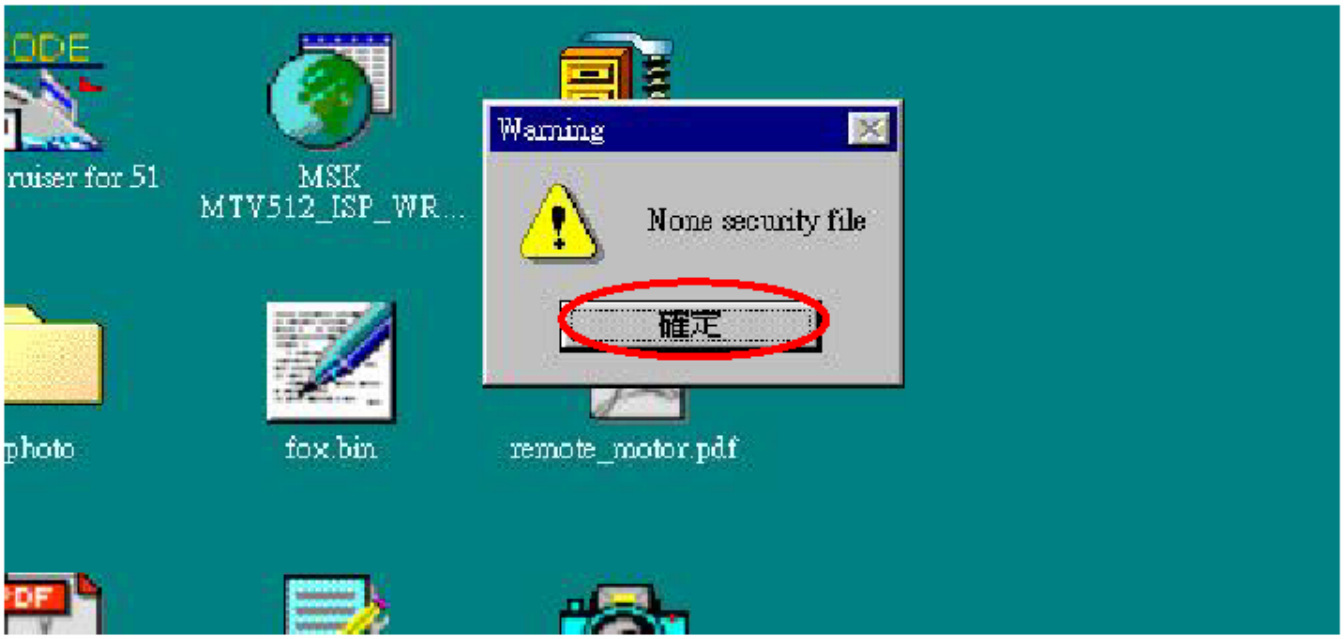


Fig 3.2

3.3 The warning is used to remind user of that different CPU rate may cause ISP function fail(it is limited by IIC protocol), press “確定” button, see Fig 3.3.

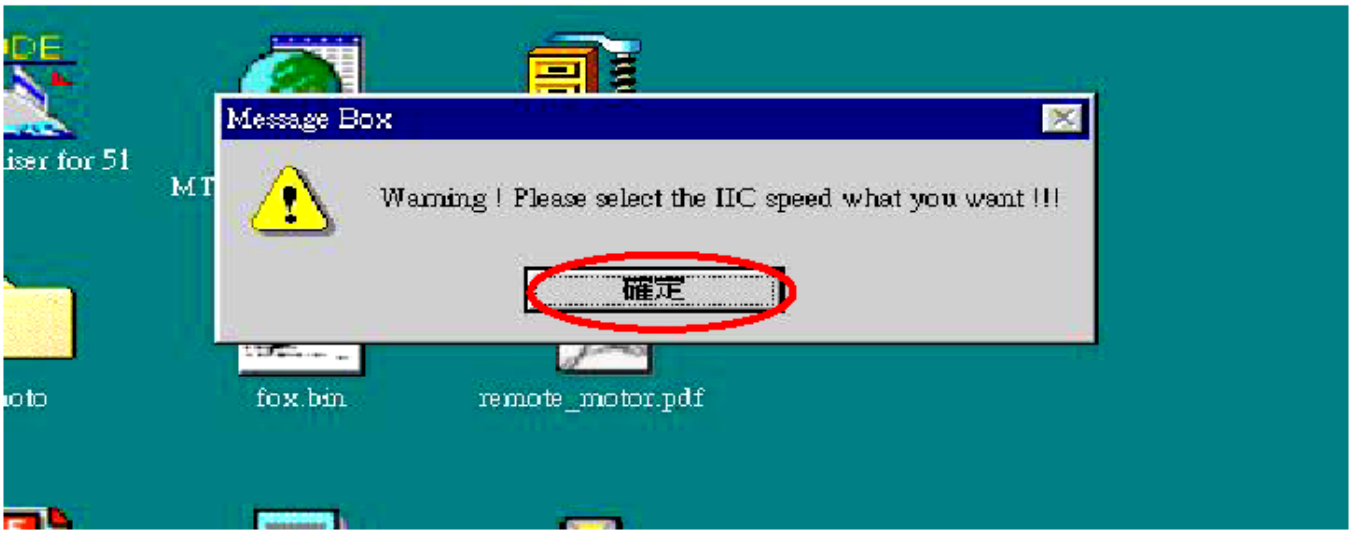


Fig 3.3

2.4 Press “Create Security File” button to key in **security code**. Adjusting bar to decrease **speed of IIC bus**, see Fig 3.4.

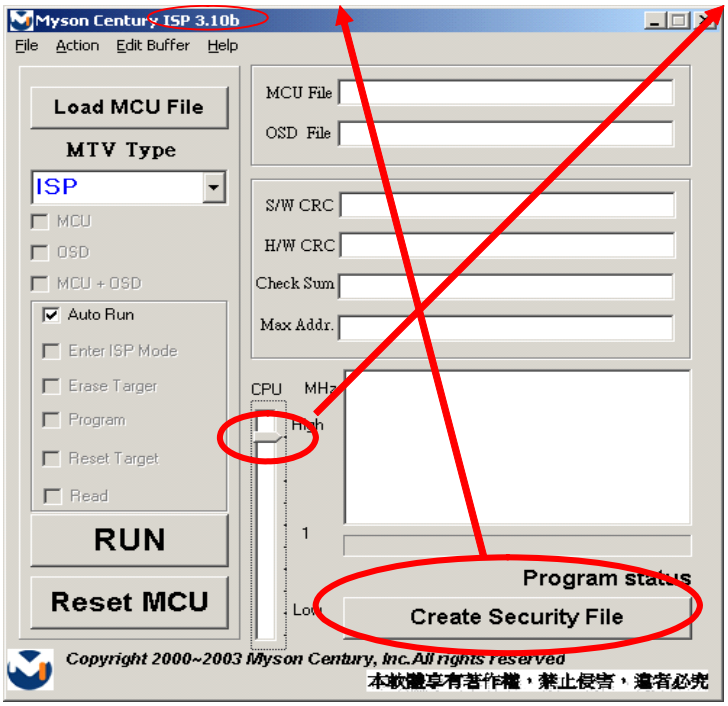


Fig 3.4

3.5 At least **2** Command No of security code, see Fig 3.5, and different security code between hardware ISP and software ISP. The security code of software ISP is set by user while coding, but the security code of hardware ISP is set by Myson Century.

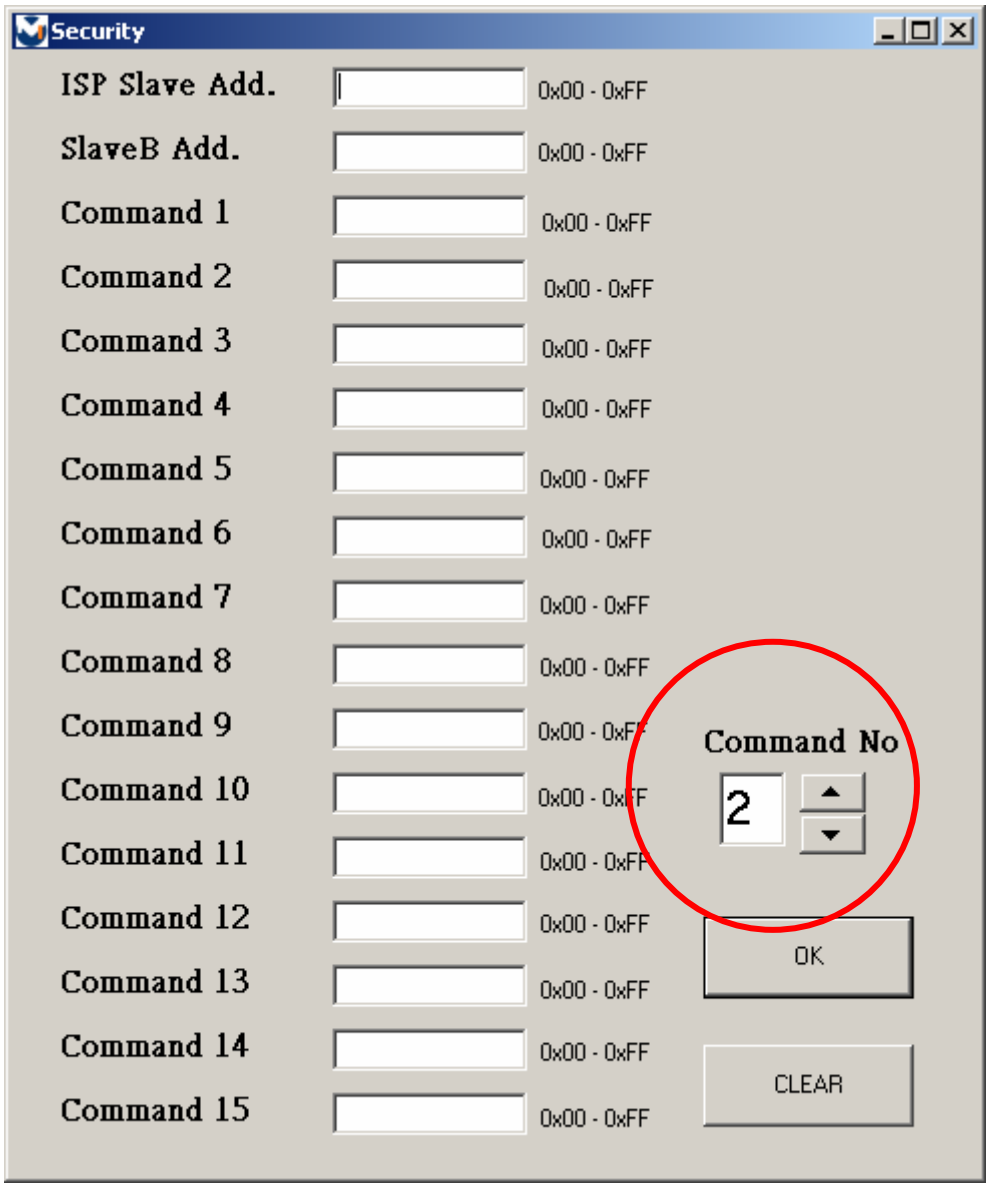


Fig 3.5

3.6 Fig 3.6 shows the setting for security code of **hardware ISP**, it needs **4** Command No, and key in command sequentially for **94, 94, AC, CA, 53**.

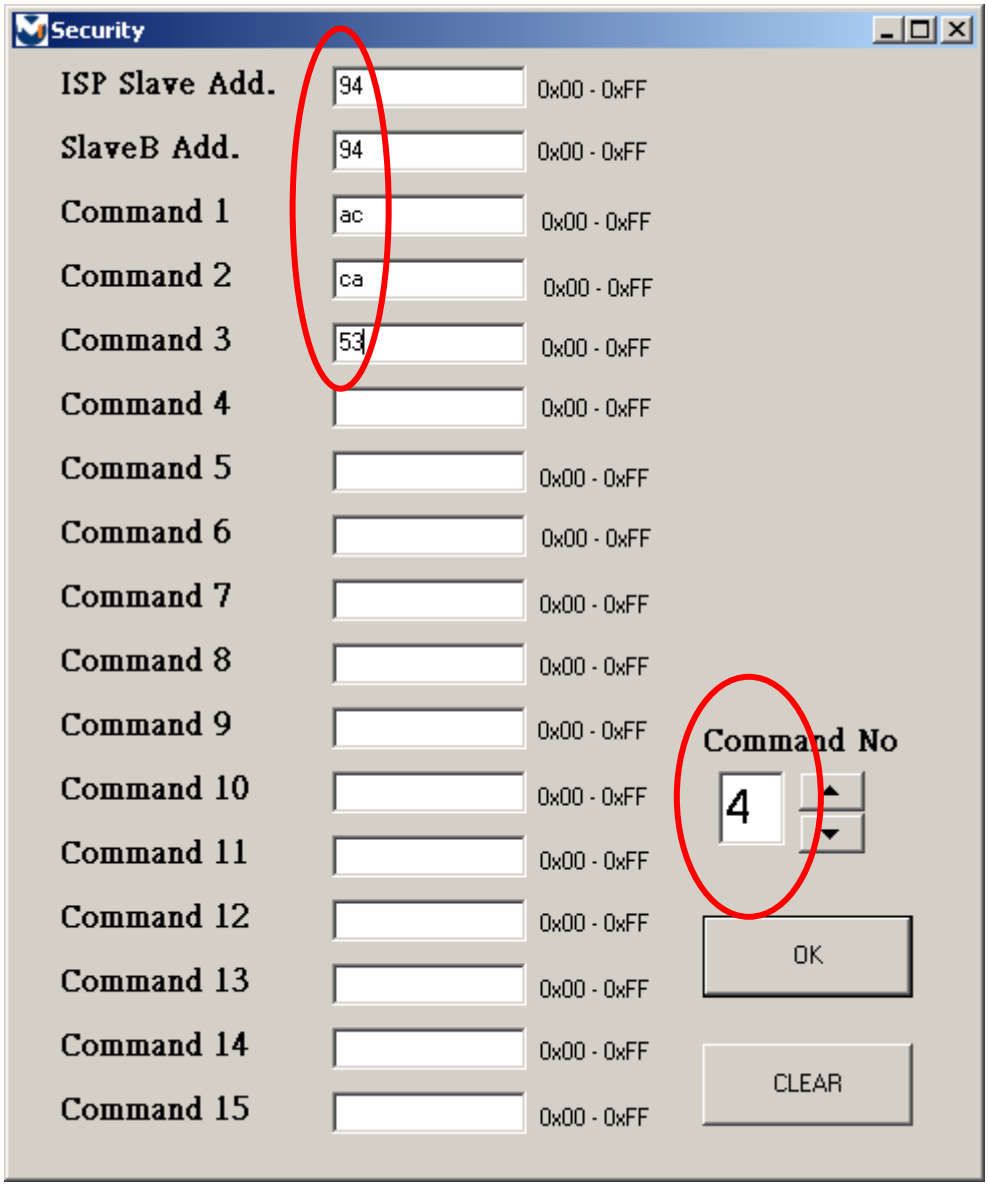


Fig 3.6

3.7 Fig 3.7 shows the setting for security code of **software ISP**, it needs **2** Command No, and key in command sequentially for **7C, 4C, 77**. The Command No and command must be set by user while coding. About the detail of setting, please refer to Section 6 Boot code of ISP.

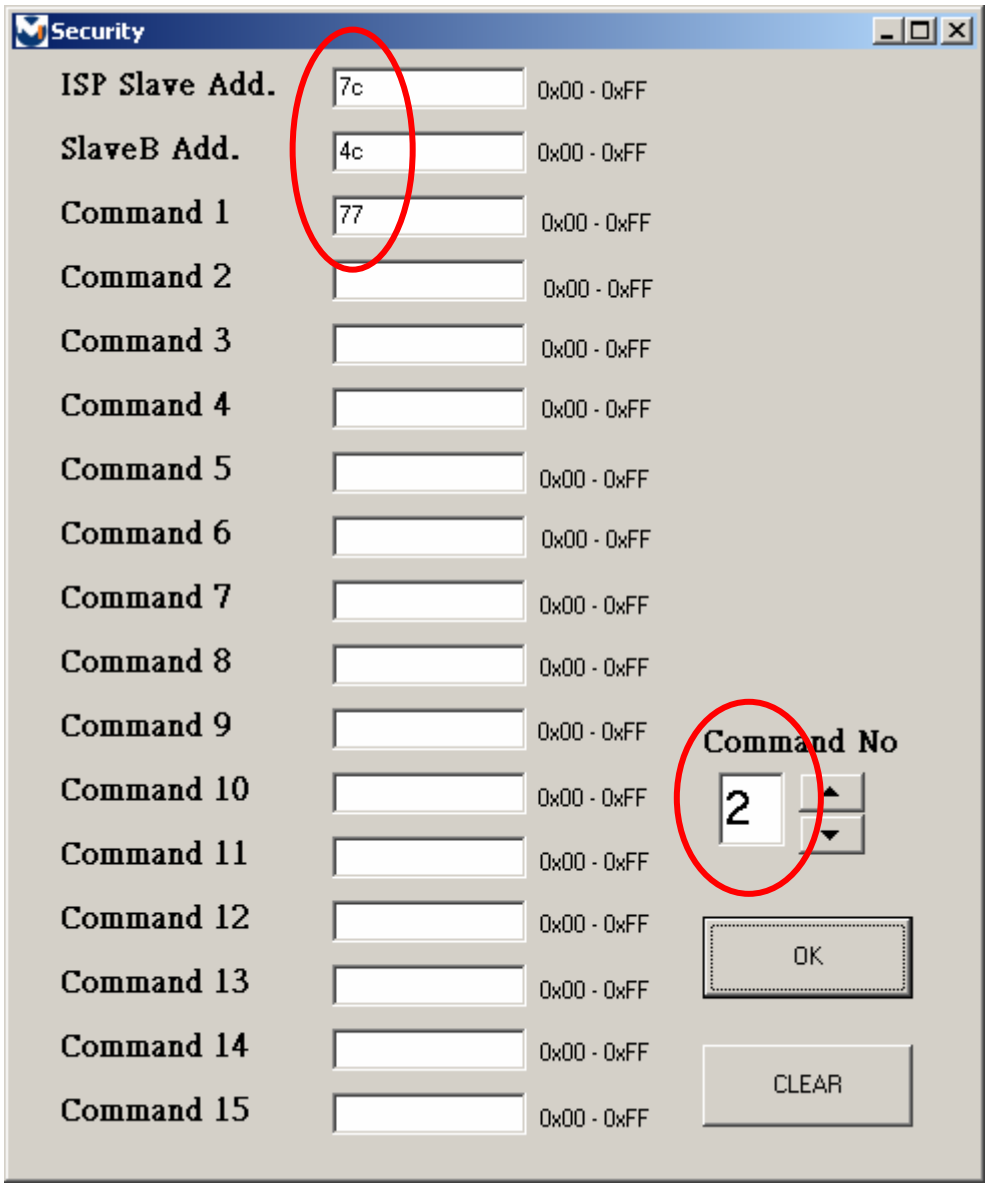


Fig 3.7

4. Use ISP to program MCU

4.1 Select MTV type first, load the binary or Intel hex file that you want to program into the MCU, and select "Auto" item, then press "RUN" button, see Fig 4.1.

4.2 If user changes the MTV type, it must load file again, or the buffer of load file will be cleared.

4.3 CRC (cyclic redundancy check): the host can check CRC register' s result instead of reading every byte in flash. The message of Check MCU CRC OK means that the Host verify ok for the progress of program.

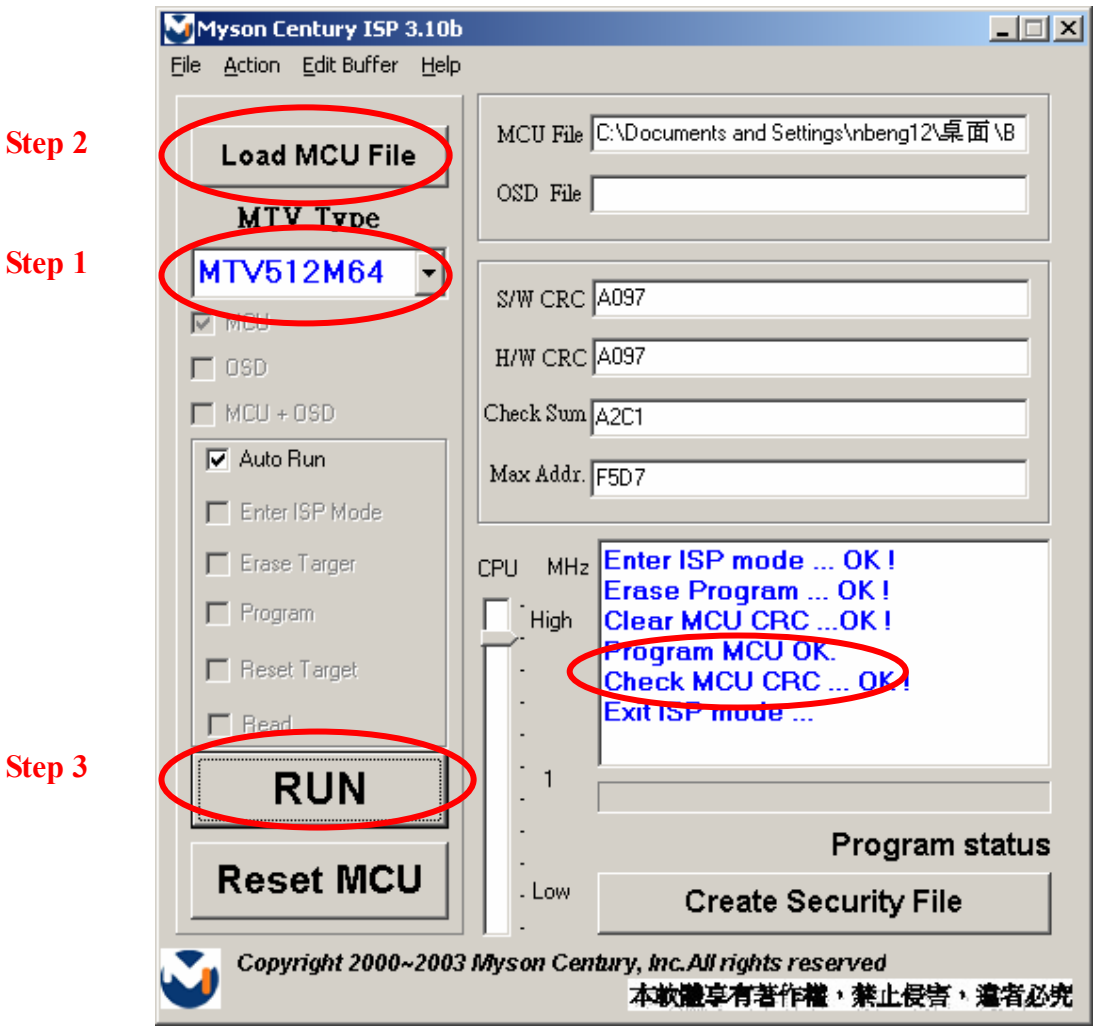
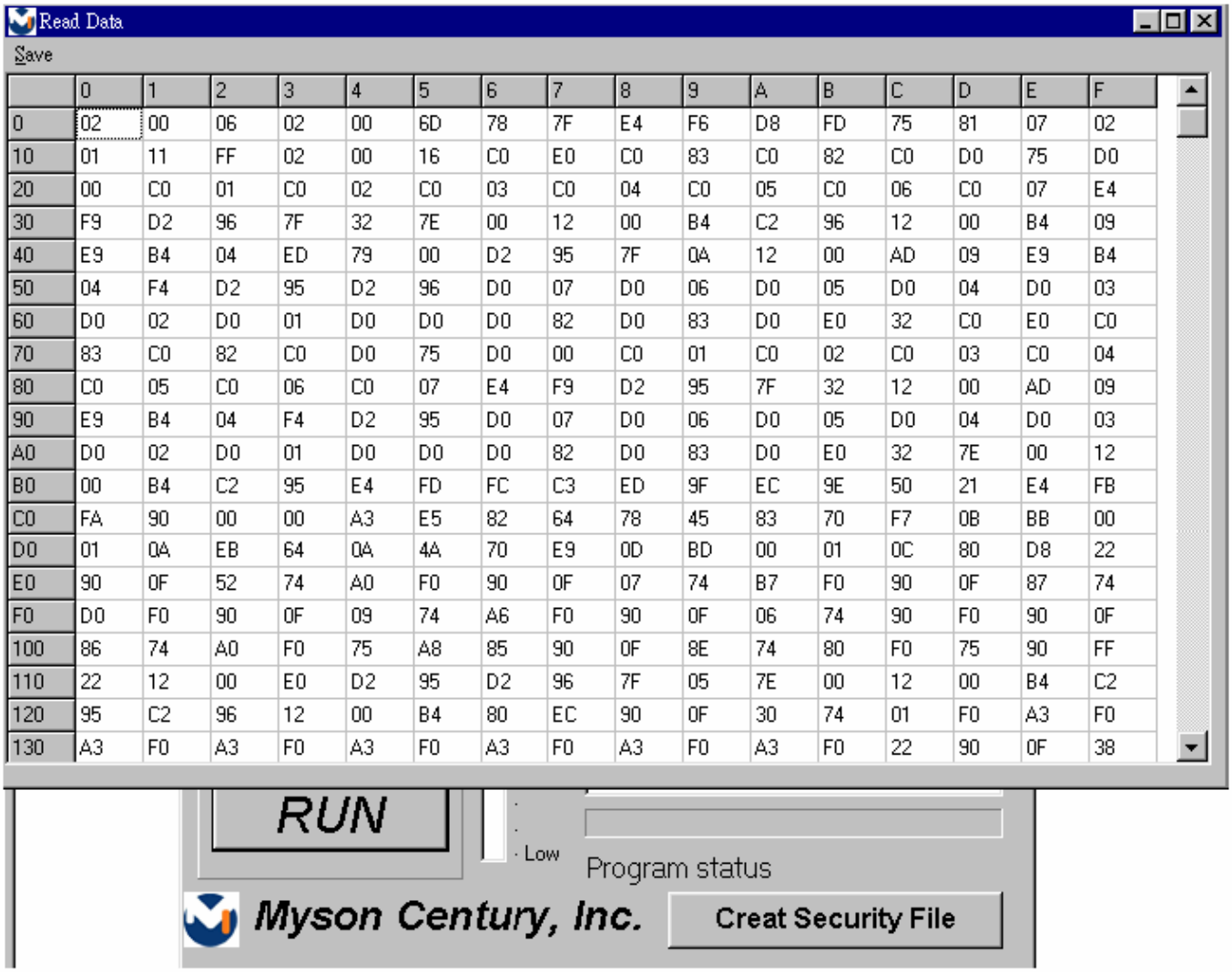


Fig 4.1

5 Use ISP to read MCU content

5.1 Only software ISP could read the MCU content, it is according to program the boot code while coding. The limitation is used for the security of customer’ s code. Select “Read Target” item, and press “RUN” button, the MCU content will show as Fig 5.1.



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	02	00	06	02	00	6D	78	7F	E4	F6	D8	FD	75	81	07	02
10	01	11	FF	02	00	16	C0	E0	C0	83	C0	82	C0	D0	75	D0
20	00	C0	01	C0	02	C0	03	C0	04	C0	05	C0	06	C0	07	E4
30	F9	D2	96	7F	32	7E	00	12	00	B4	C2	96	12	00	B4	09
40	E9	B4	04	ED	79	00	D2	95	7F	0A	12	00	AD	09	E9	B4
50	04	F4	D2	95	D2	96	D0	07	D0	06	D0	05	D0	04	D0	03
60	D0	02	D0	01	D0	D0	D0	82	D0	83	D0	E0	32	C0	E0	C0
70	83	C0	82	C0	D0	75	D0	00	C0	01	C0	02	C0	03	C0	04
80	C0	05	C0	06	C0	07	E4	F9	D2	95	7F	32	12	00	AD	09
90	E9	B4	04	F4	D2	95	D0	07	D0	06	D0	05	D0	04	D0	03
A0	D0	02	D0	01	D0	D0	D0	82	D0	83	D0	E0	32	7E	00	12
B0	00	B4	C2	95	E4	FD	FC	C3	ED	9F	EC	9E	50	21	E4	FB
C0	FA	90	00	00	A3	E5	82	64	78	45	83	70	F7	0B	BB	00
D0	01	0A	EB	64	0A	4A	70	E9	0D	BD	00	01	0C	80	D8	22
E0	90	0F	52	74	A0	F0	90	0F	07	74	B7	F0	90	0F	87	74
F0	D0	F0	90	0F	09	74	A6	F0	90	0F	06	74	90	F0	90	0F
100	86	74	A0	F0	75	A8	85	90	0F	8E	74	80	F0	75	90	FF
110	22	12	00	E0	D2	95	D2	96	7F	05	7E	00	12	00	B4	C2
120	95	C2	96	12	00	B4	80	EC	90	0F	30	74	01	F0	A3	F0
130	A3	F0	A3	F0	A3	F0	A3	F0	A3	F0	A3	F0	22	90	0F	38

Fig 5.1

5.2 If user uses hardware ISP to read MCU content, it shows as Fig 5.2.

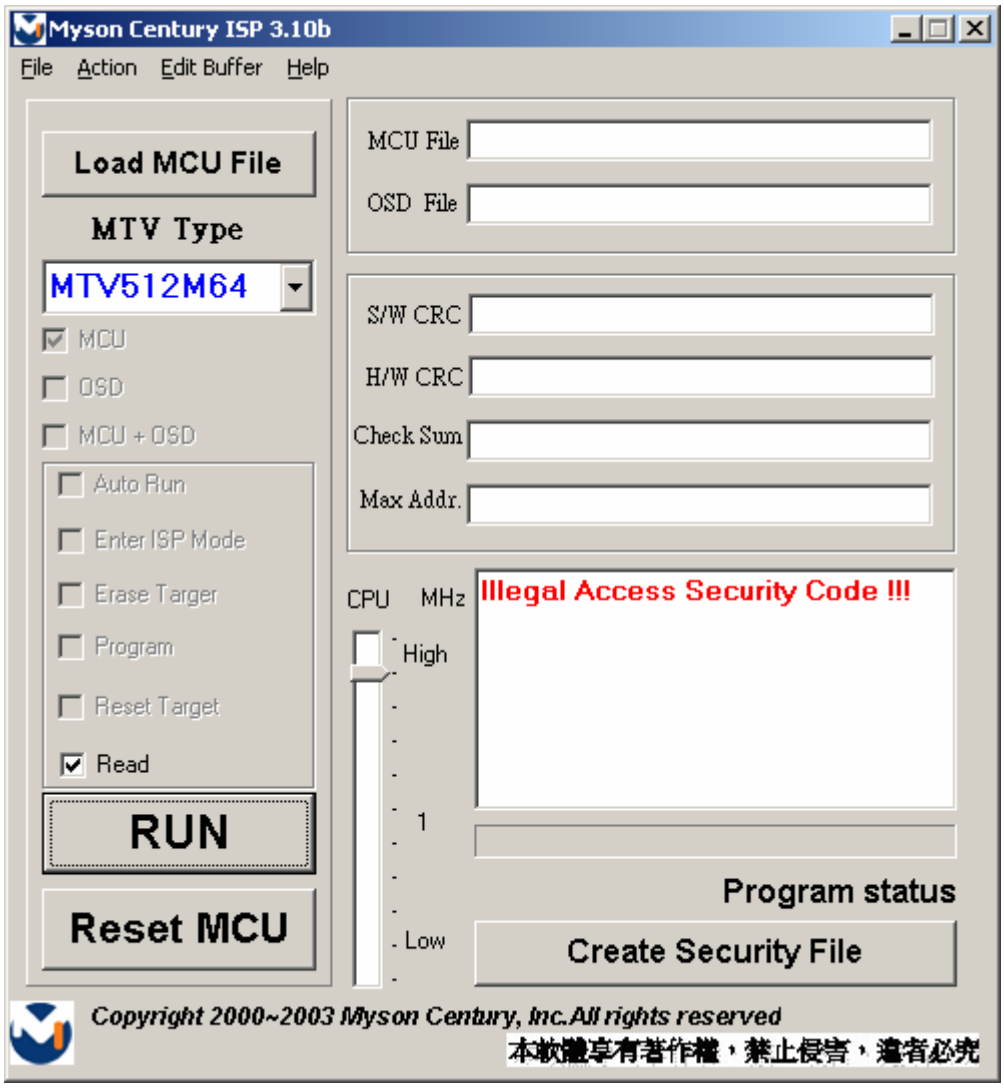
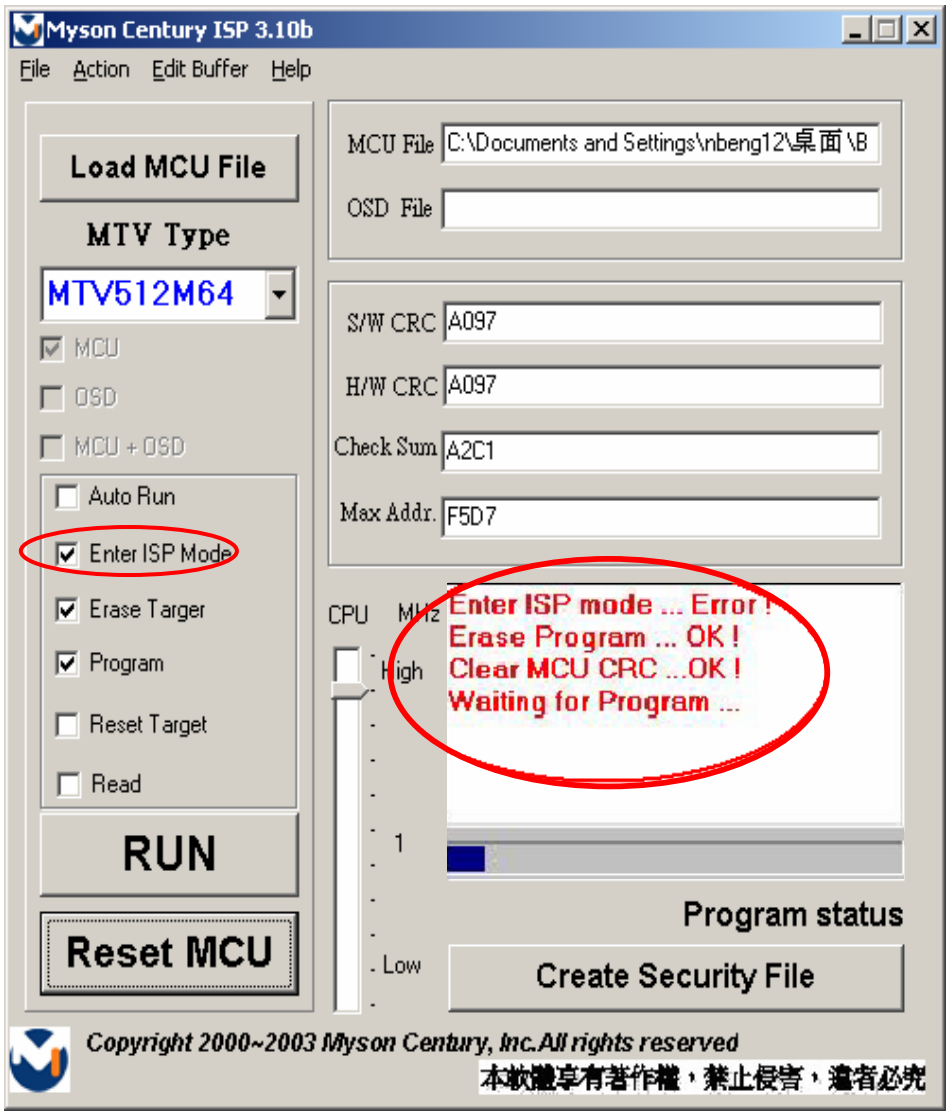
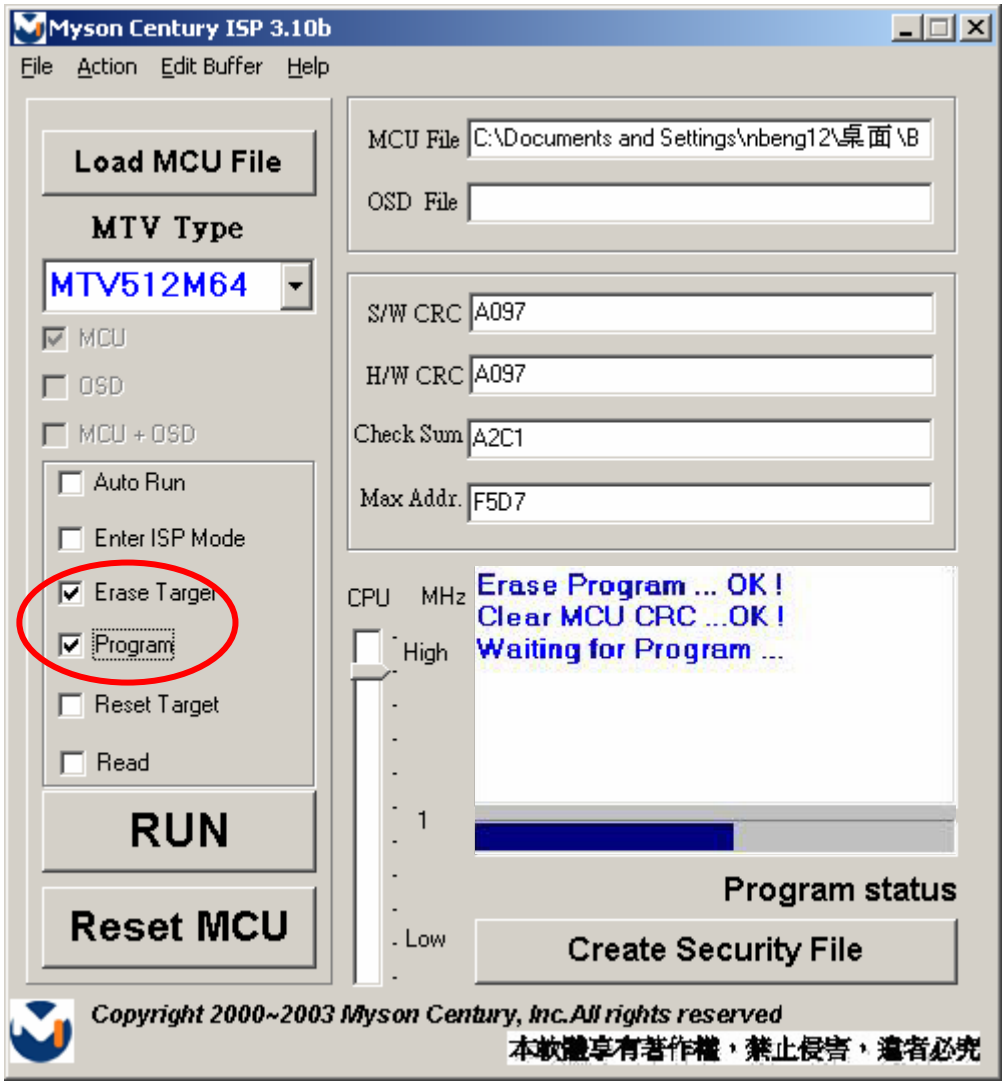


Fig 5.2

6 Re-entry the ISP Mode

When you could not select or click 'Reset MCU' button and enter ISP mode again, you refer the message as below:





Note:

(1)Disable the 'Enter ISP Mode' option to avoid the error message display.

(2)If you using the MTV312M64 or before MCU serials, the MCU will always in 'ISP Mode' even programming fail or erase MCU that instead of select or press 'Reset MCU'.

7. Boot code of ISP

7.1 Hardware ISP

(1) Without boot code

(2) Fixed security code: 94, 94, AC, CA, 53

(3) Attention to the pin of HSCL (1) and HSDA (1) should keep in enable

(4) MTV412M, MTV512M, CS8954 support hardware ISP

7.2 Software ISP

(1) With boot code

(2) User define the security code

(3) Attention to the pin of HSCL (1) and HSDA (1) should keep in enable

(4) Only software ISP could read the MCU content

(5) MTV212M, MTV312M, MTV230M, MTV412M, MTV512M, CS8954 support software ISP

7.3 Boot code of software ISP

(1) Initialize MCU

(a) Define the I/O pin to HSCL (1) and HSDA (1)

(b) Define the slave B address

(c) Enable 8051 INT1 (ISR 2)

(2) Coding for INT1 while get into ISP mode

(a) Clear watchdog to prevent reset during ISP period

(b) Disable all interrupt to prevent CPU wake-up

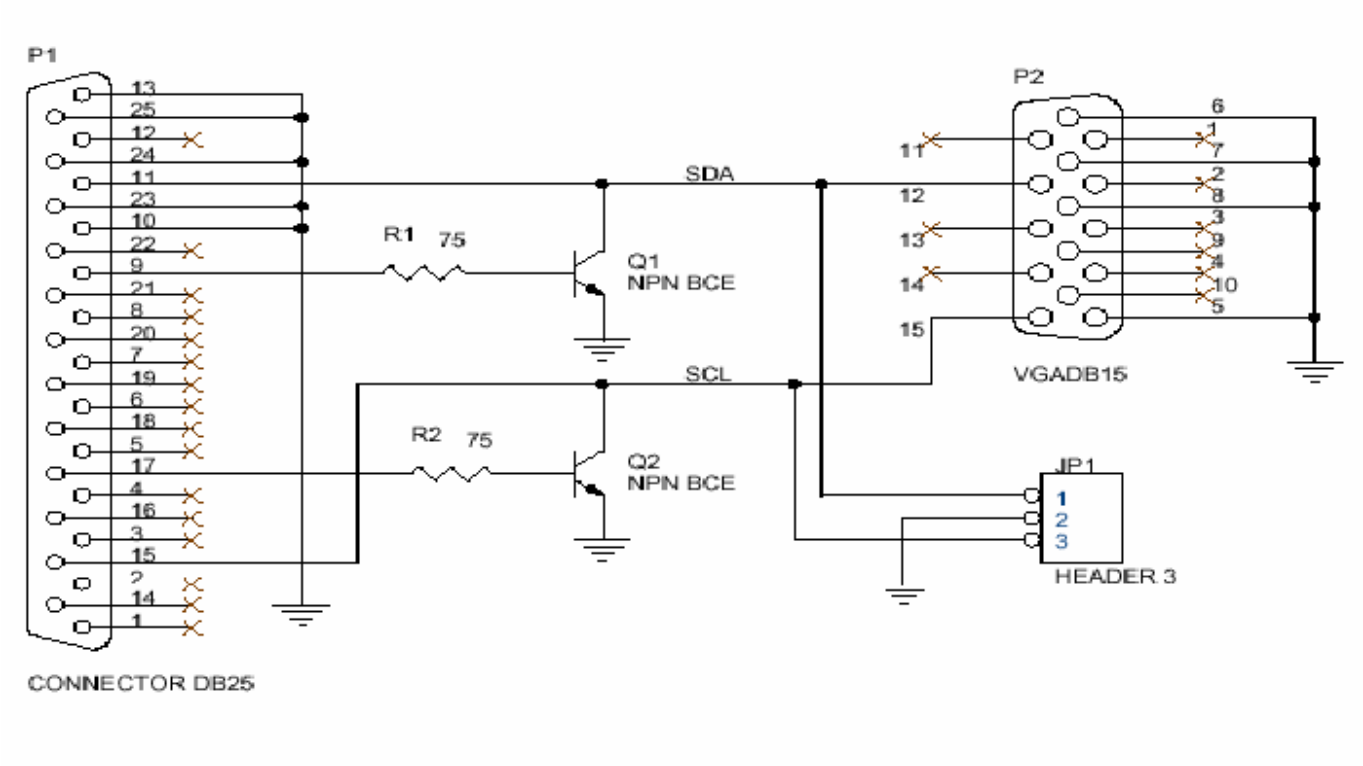
(c) Write ISP slave address

(d) Write 93h to ISP enable address to enable ISP

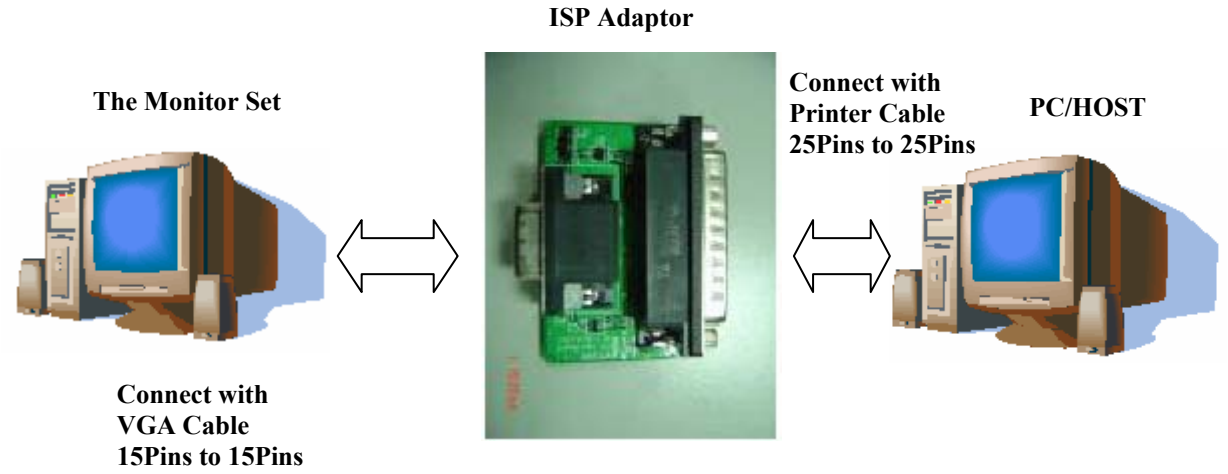
(e) Enter 8051 idle mode

7.4 The followings show the relationship between the code and the security code.

8. ISP Adaptor Schematic



9. Adaptor Linking



Packing For Shipping And Disassembly Procedure

Packing For Shipping

1. Packing Procedure

1.1 Paste protection film to protect the monitor. (Figure 1)

1.2 Put the monitor in the PE bag and cover the small PE bag on the stand. (Figure 2)

Figure 1

Figure 2

1.3 Fold the left bottom of PE bag's opening mouth to the back of the monitor. (Figure 3)

1.4 Take the left side cushion and fix it onto the left side of the monitor. (Figure 4)

Figure 3

Figure 4

1.5 Fold the right side PE bag to the back of monitor, and pull the PE bag's opening mouse to the back of the monitor.(Figure5)

1.6 Take the left side cushion and fix it onto the left side of the monitor.(Figure 6)

Figure 5

Figure6

1.7 Put the monitor into the carton, panel screen should face to carton handle side, as last, close the carton. (Figure 7)

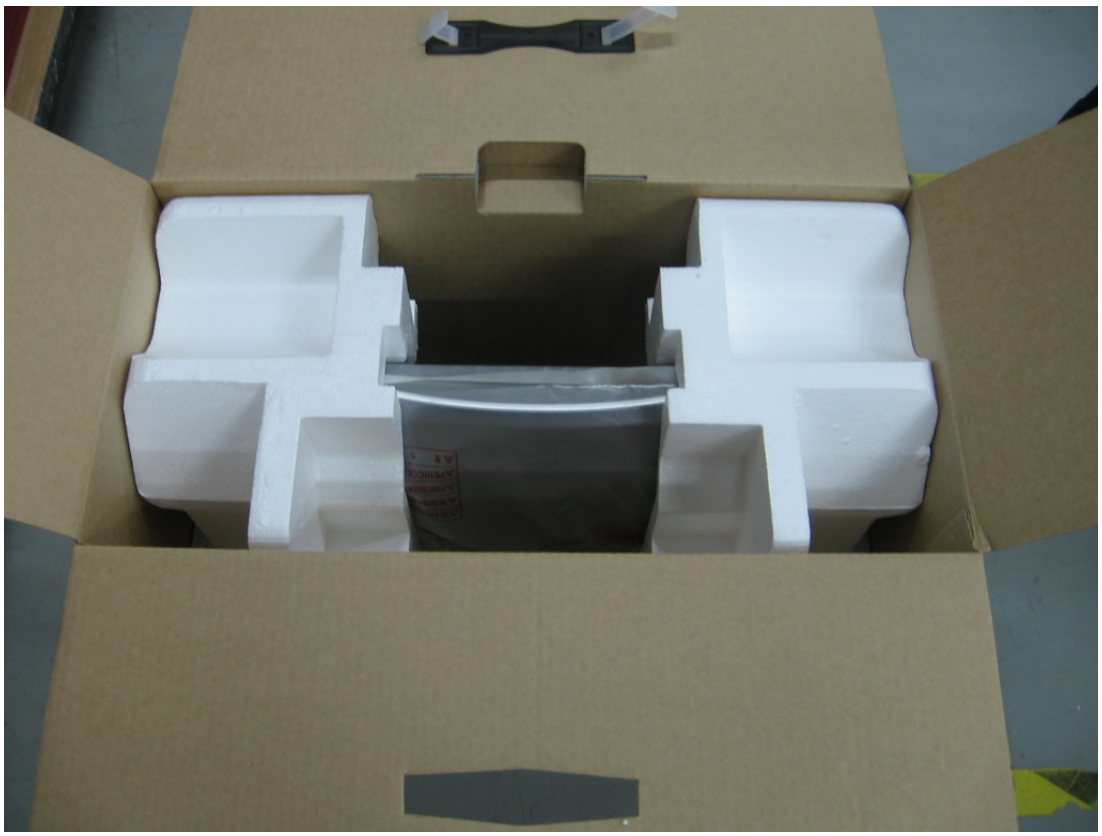


Figure 7

1 Separate Stand Assy

Step 1 :

Separate the Stand Cover.

Step 2 :

Loose the Stand 4 Screws

Step 3 :

Completed.

2 Separate Bezel

Step 1 :

Loose Rear Cover 2 Screws.

Step 2 :

Separate the front Bezel hooks to take Bezel and Panel apart.

Step 3:

Separate the side hooks of Bezel to take Bezel and Rear Cover apart.

Step 4 :

Completed.

3 Remove Panel

Step 1 :

Disassemble 2 screws of bottom of panel and lift up Panel from Rear cover

Step 2 :

Remove 2 pieces Backlight Wires and A/D Board connect Wire.

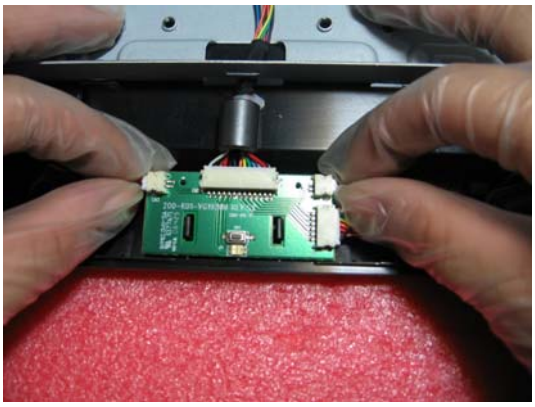
Step3 :

Completed.

4 Remove Power key Board and function key Board

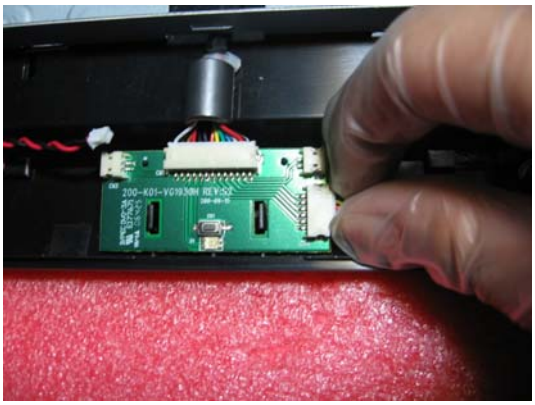
Step 1 :`

Remove 2 pieces Wires of Power Key Board



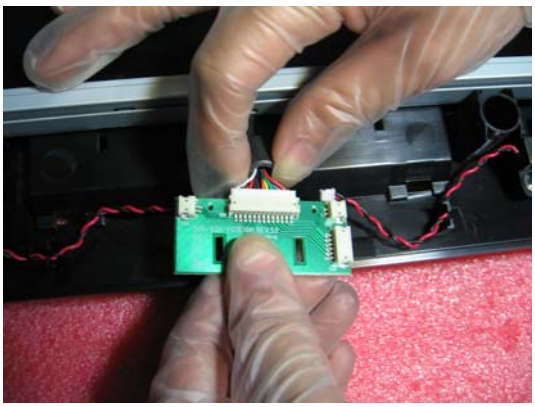
Step 2 :`

Remove connect wire of Power Key Board



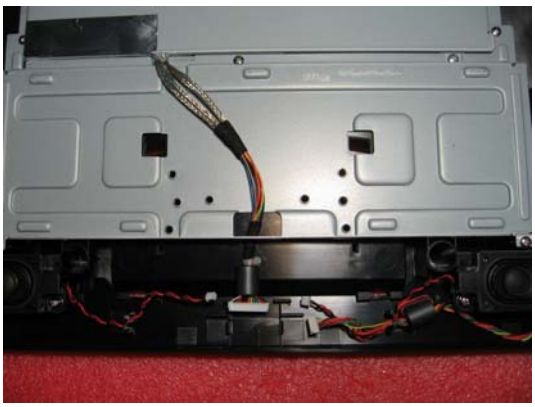
Step 3 :`

Remove Wire of Power Key Board



Step4:

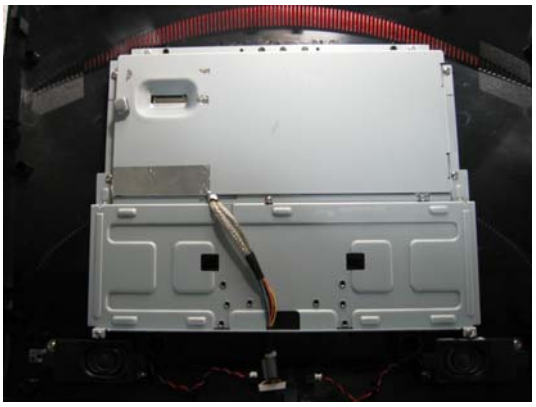
Completed.



5 Separate Metal Cover

Step1:`

Loose all Screws of support plate and Metal Cover

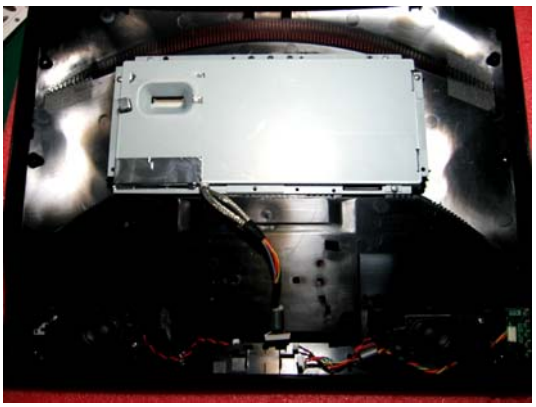


Step2:`

Remove Support plate

Step3:`

Separate Metal Cover



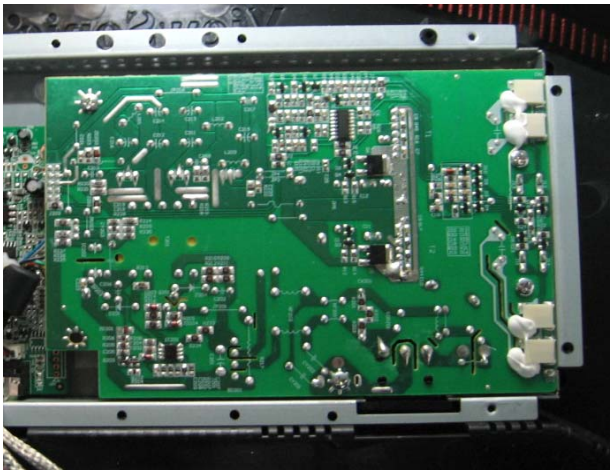
Step4:`

Completed.

6 Remove Lips Board And A/D Board

Step 1 :

Loose 4 Screws of Lips Board

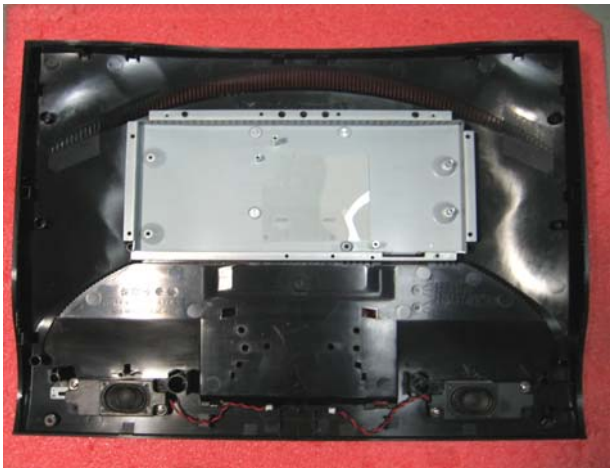


Step 2 :

Loose 3 Screws of A/D Board

Step 3 :

Completed



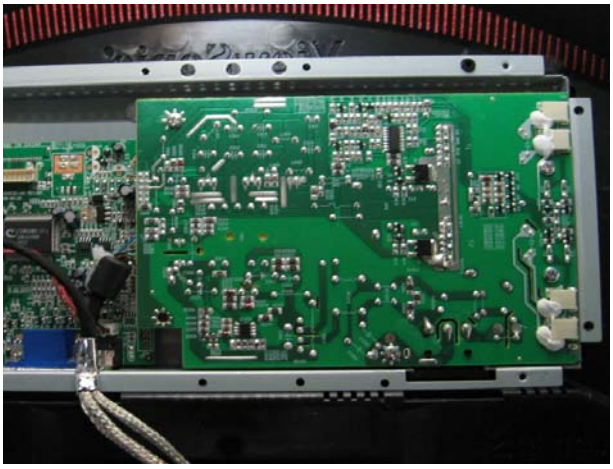
7 Change Lips Board and A/D Board

Step 1 :

Place new A/D Board and fasten 4 screws (wihte-Left,red-Right)

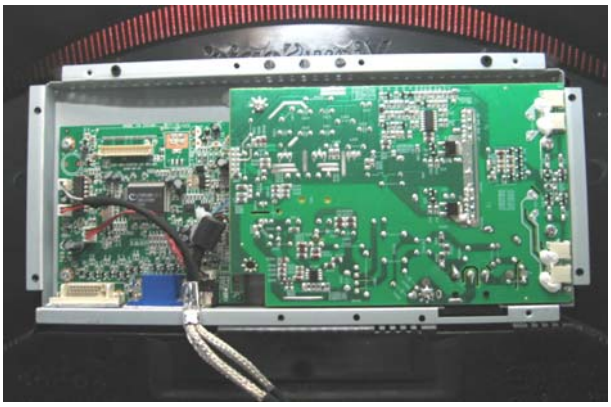
Step 2 :

Assemble Lips Board



Step 3 :

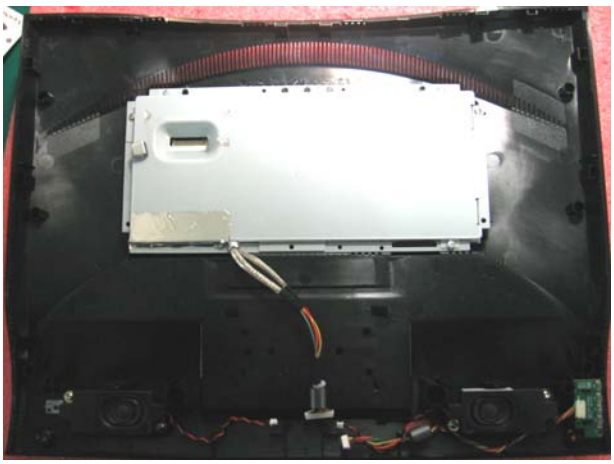
Completed



8 Assemble Metal Cover and Support plate

Step 1 :

Assemble Metal Cover

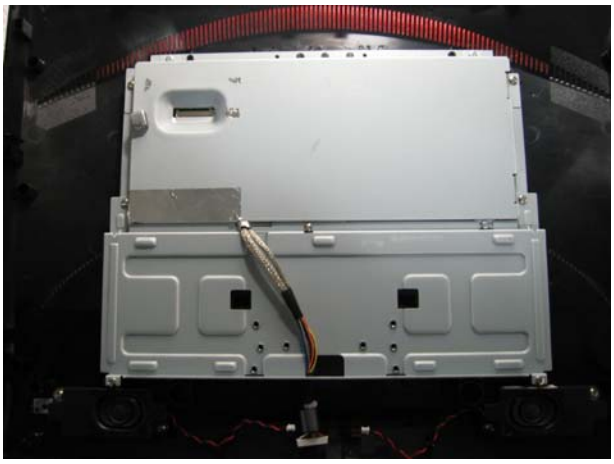


Step 2 :

Assemble Support plate

Step 3 :

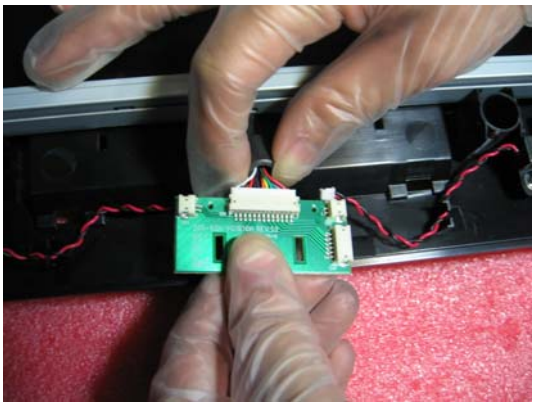
Completed



9 Assemble Power key Board and function key Board

Step 2:

Insert the wire of Power key Board

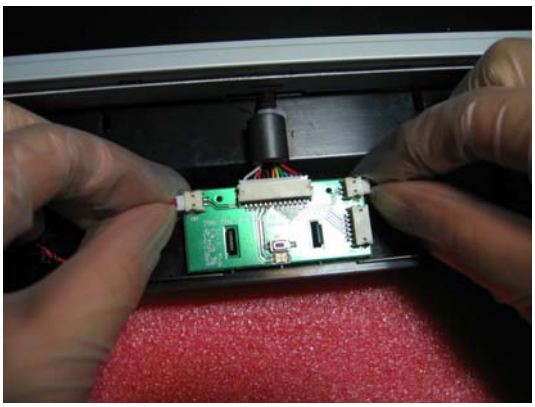


Step 2:

Place new Power key Board on Bezel hooks

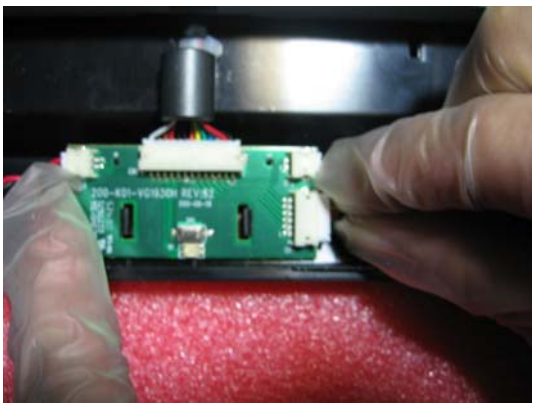
Step 3:

Insert 2 pieces Audio wires of Power Key Board



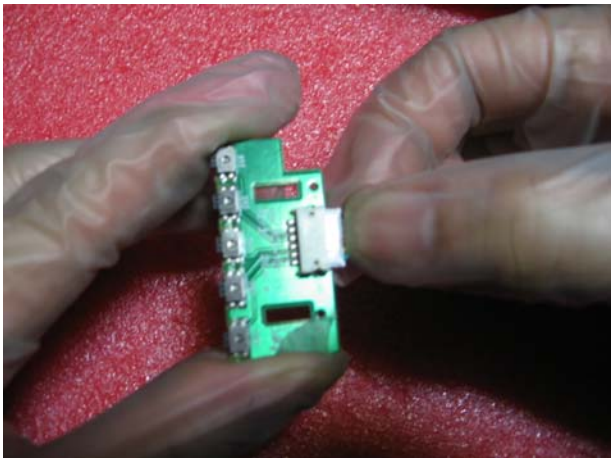
Step 4:

Insert connect wire of Power Key Board



Step5:

Insert the connect wire of Key Board



Step6:

Assemble Key Board of Bezel hooks

Step7:

Completed

10 Assemble Panel

Step 1 :

Insert 1 piece of Backlight wires

Step 2 :

Insert Wires of A/D Board

Step 3 :

Insert another piece backlight wire of Lips Board

Step 4 :

Completed.

11 Assemble Bezel

Step 1 :

Place the rear cover and Assembly the right hooks of the Bezel first .

Step 2 :

Assemble Bezel hooks Bezel and Panel apart.

Step 3 :

Completed.

12 Assemble Stand and Hinge Cover

Step 1 :

Assemble Stand

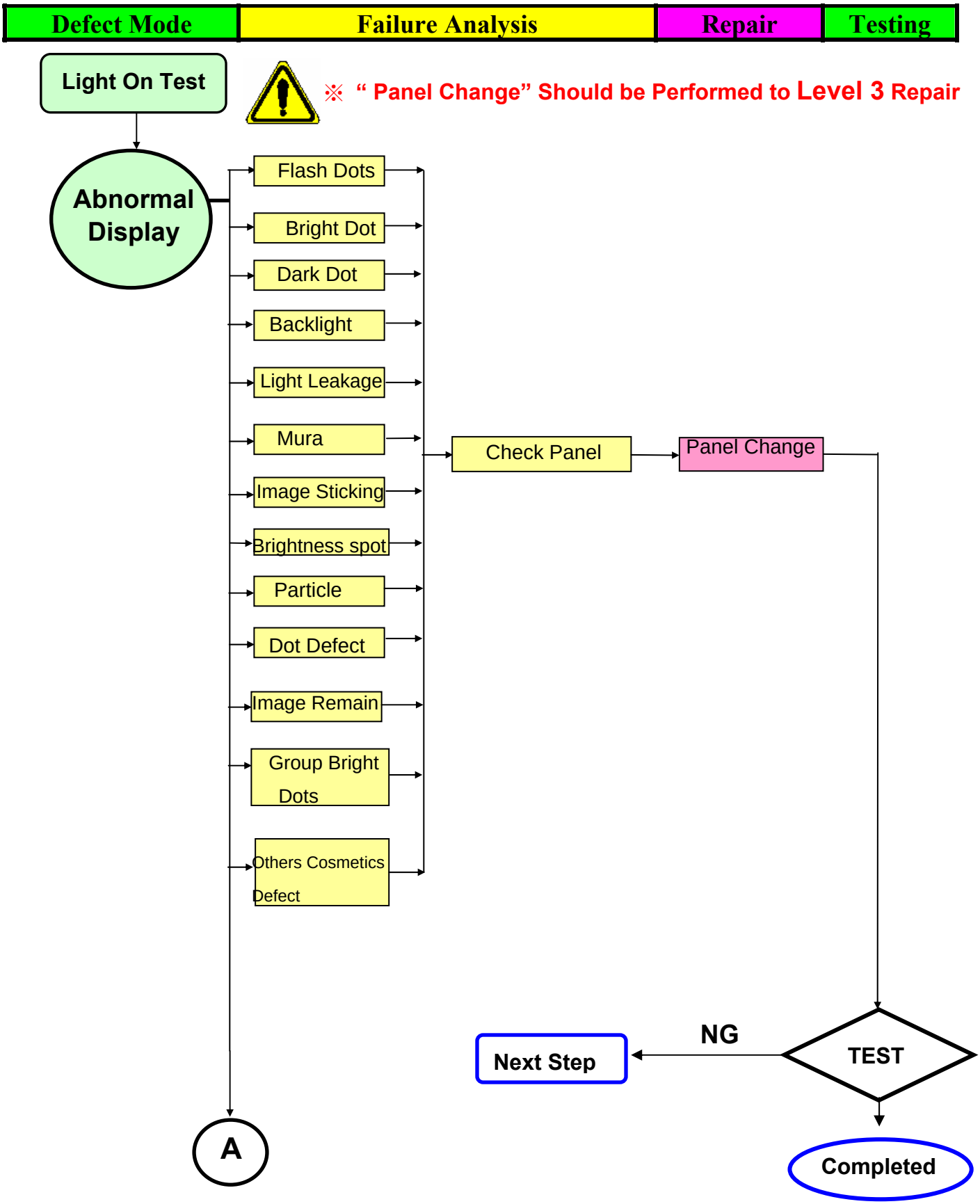
Step2 :

Assemble Hinge Cover

Step 3:

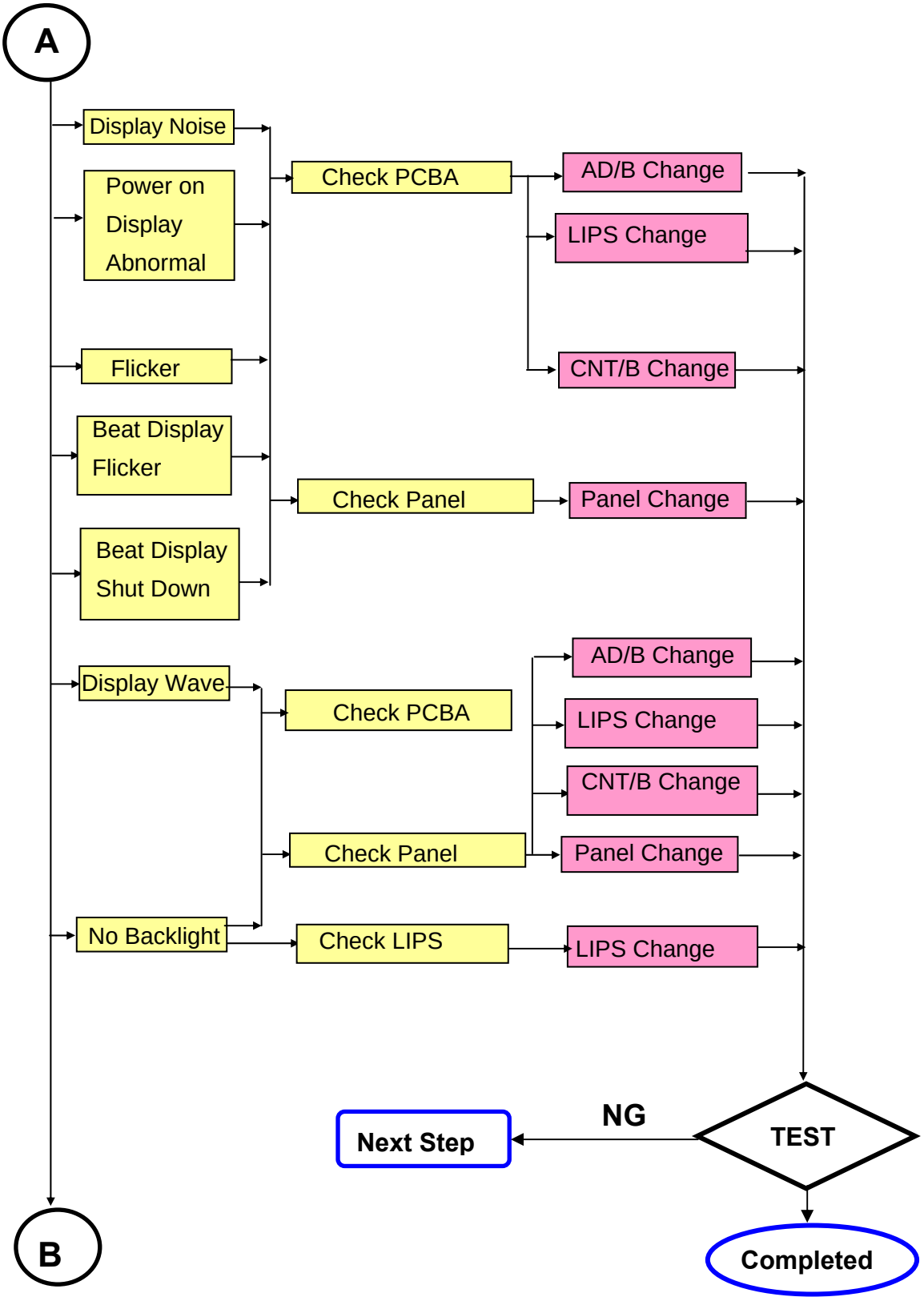
Completed.

6. Troubleshooting Flow Chart

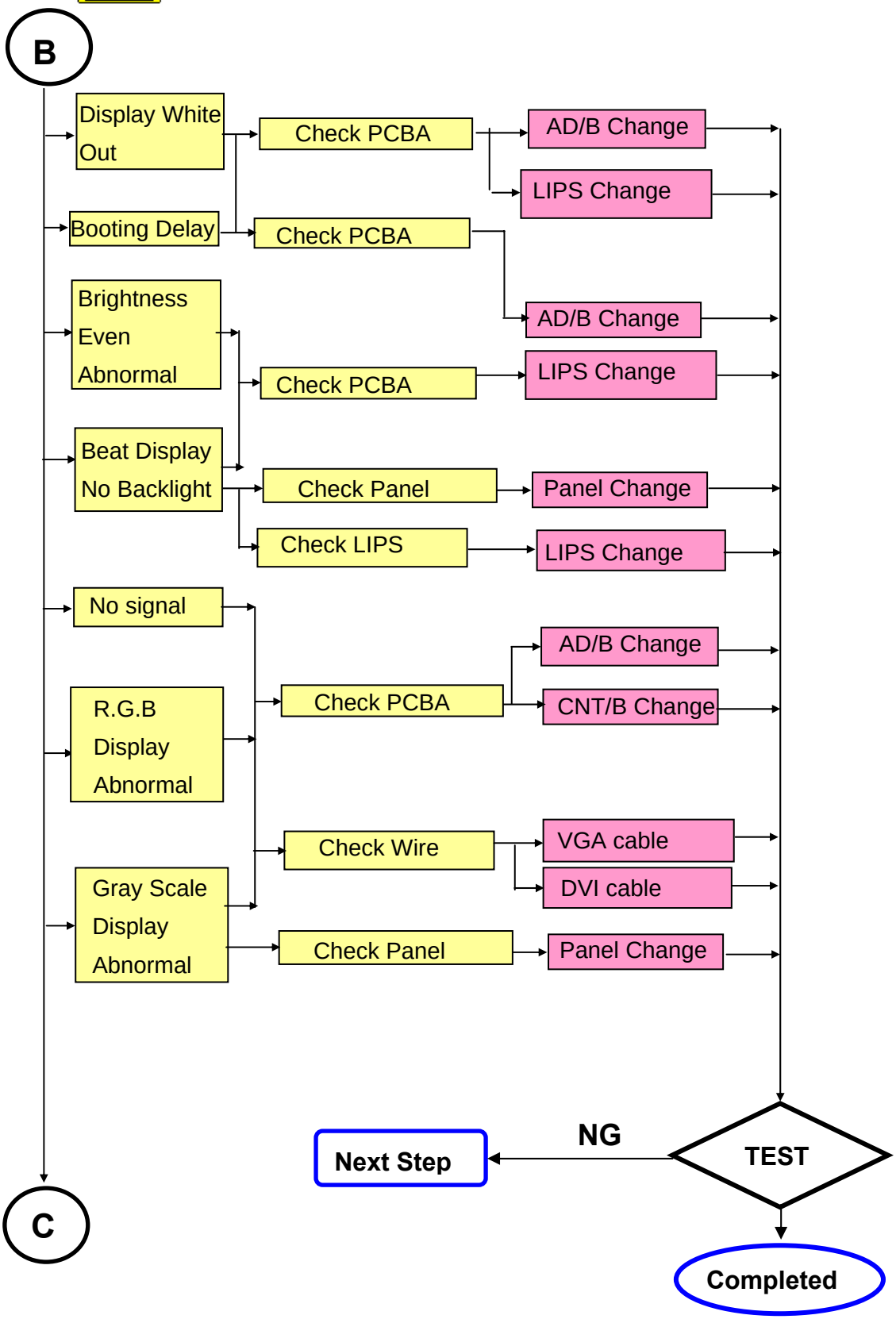


Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair

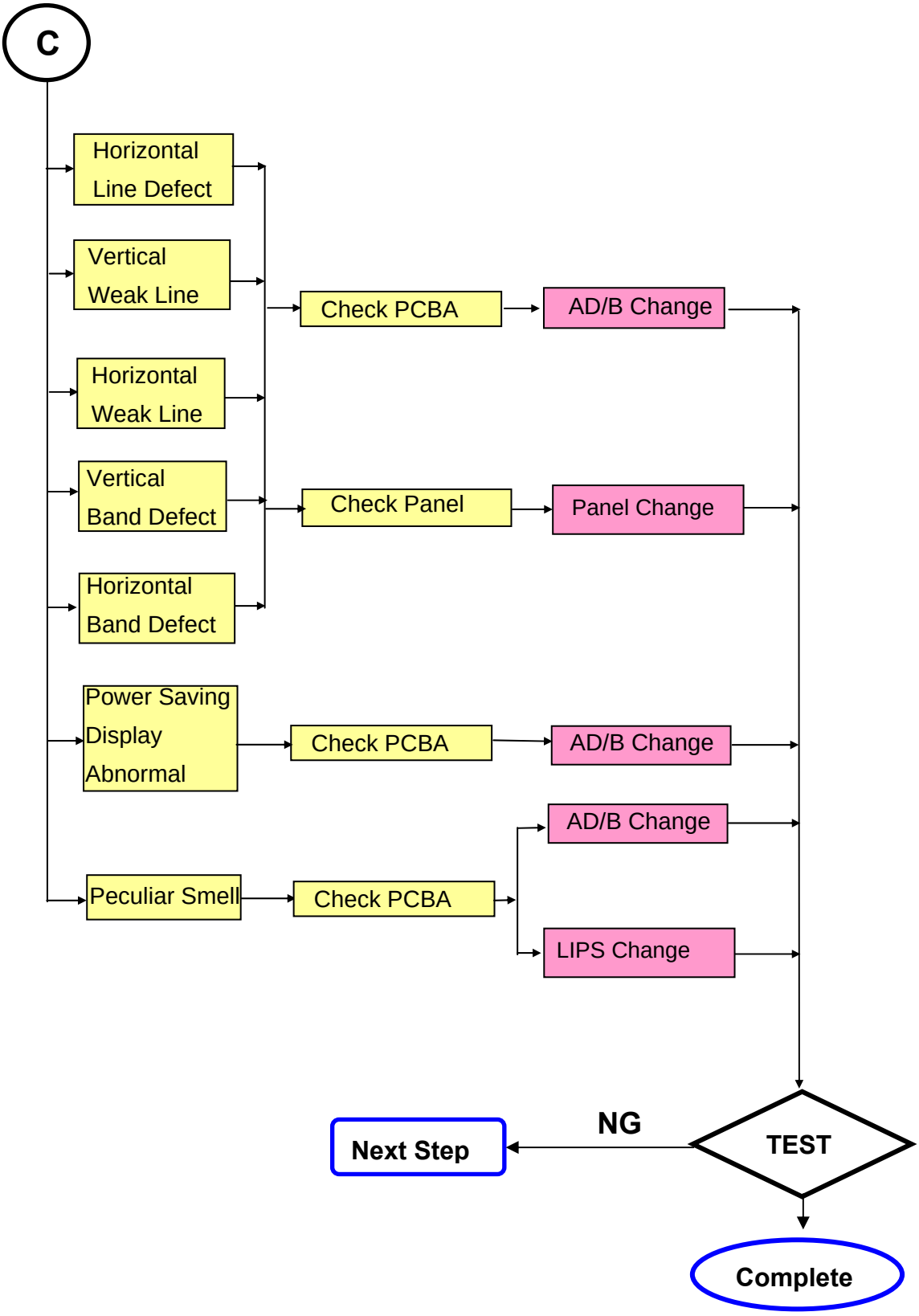


※ " Panel Change" Should be Performed to Level 3 Repair



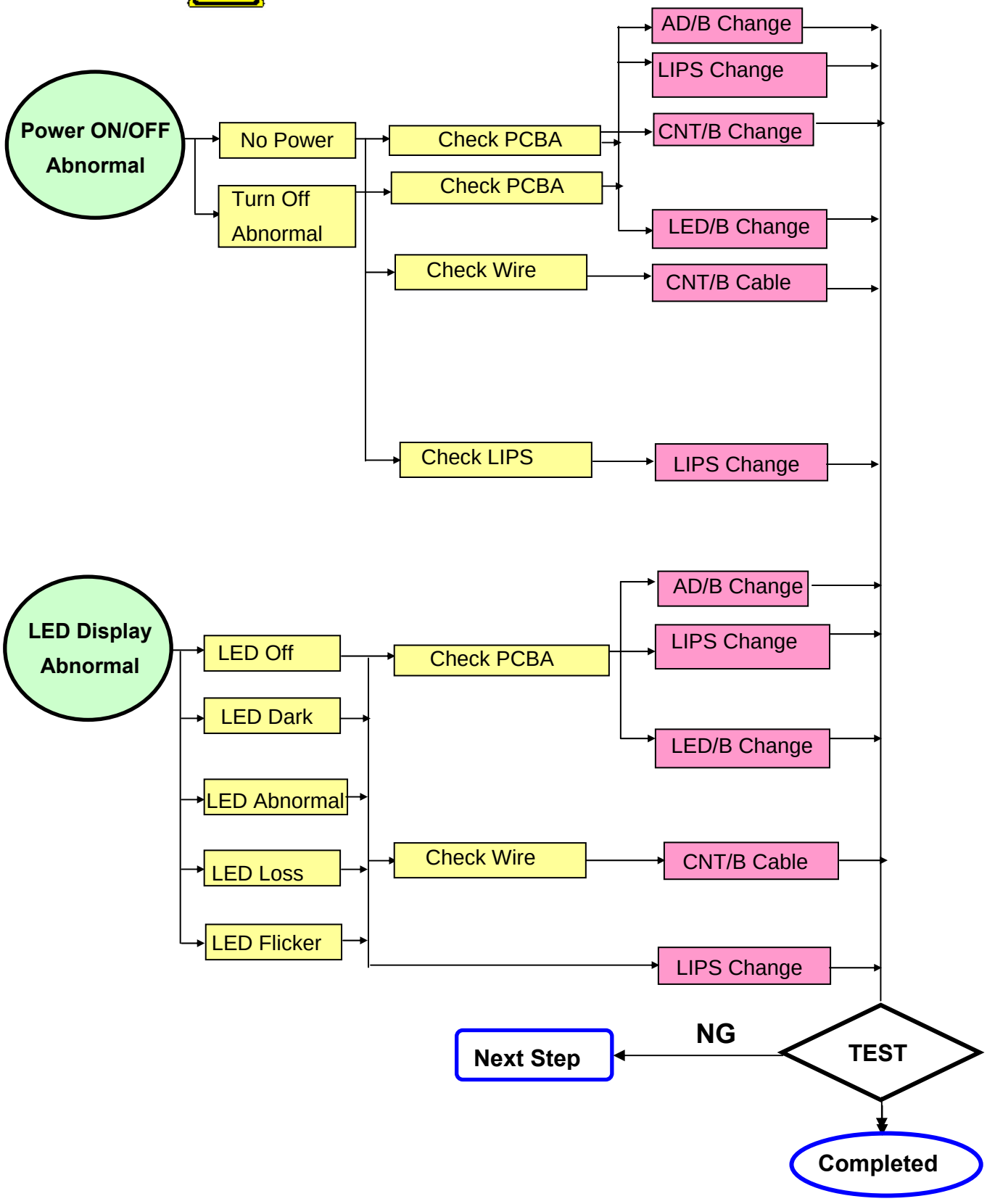
Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair

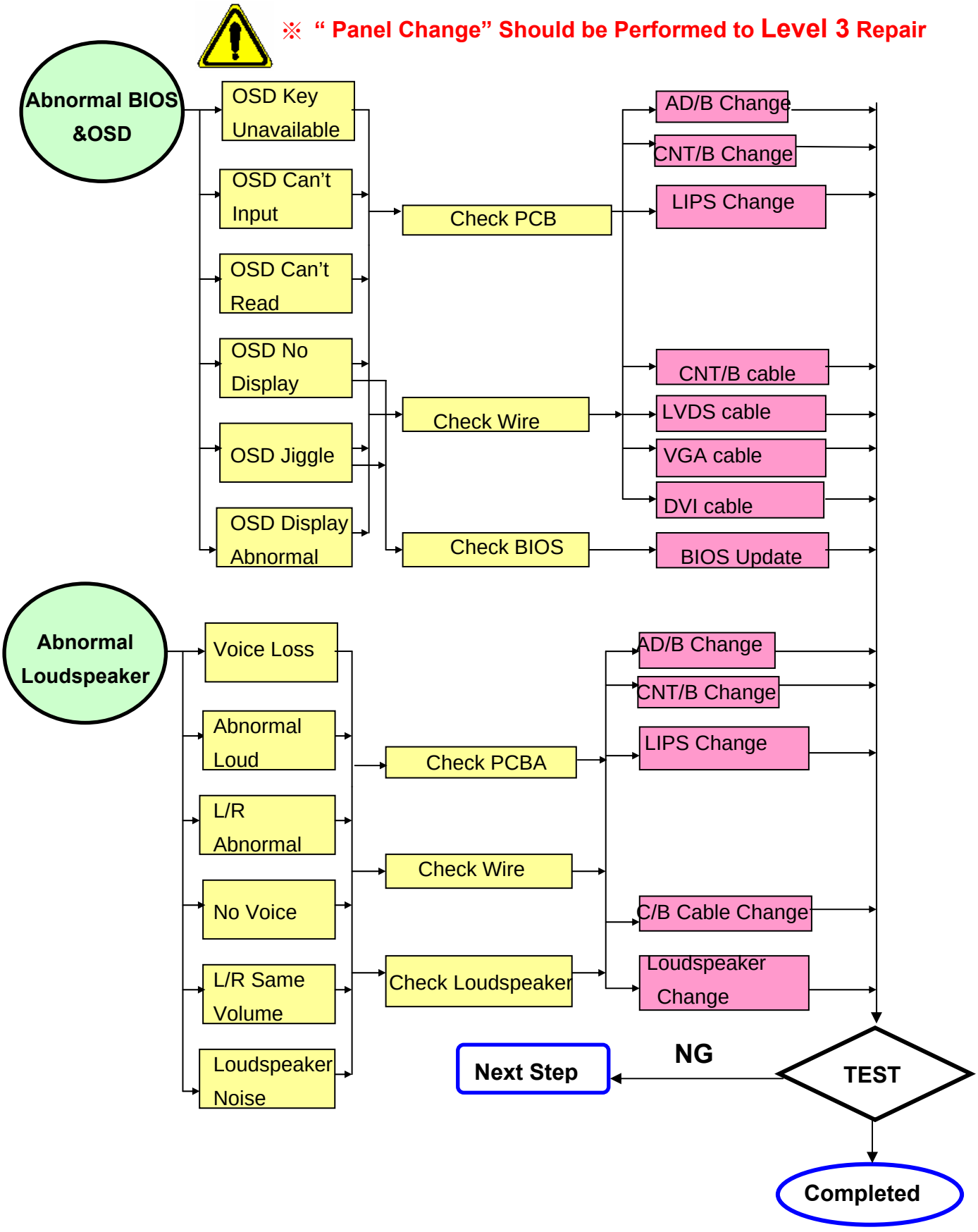


Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair

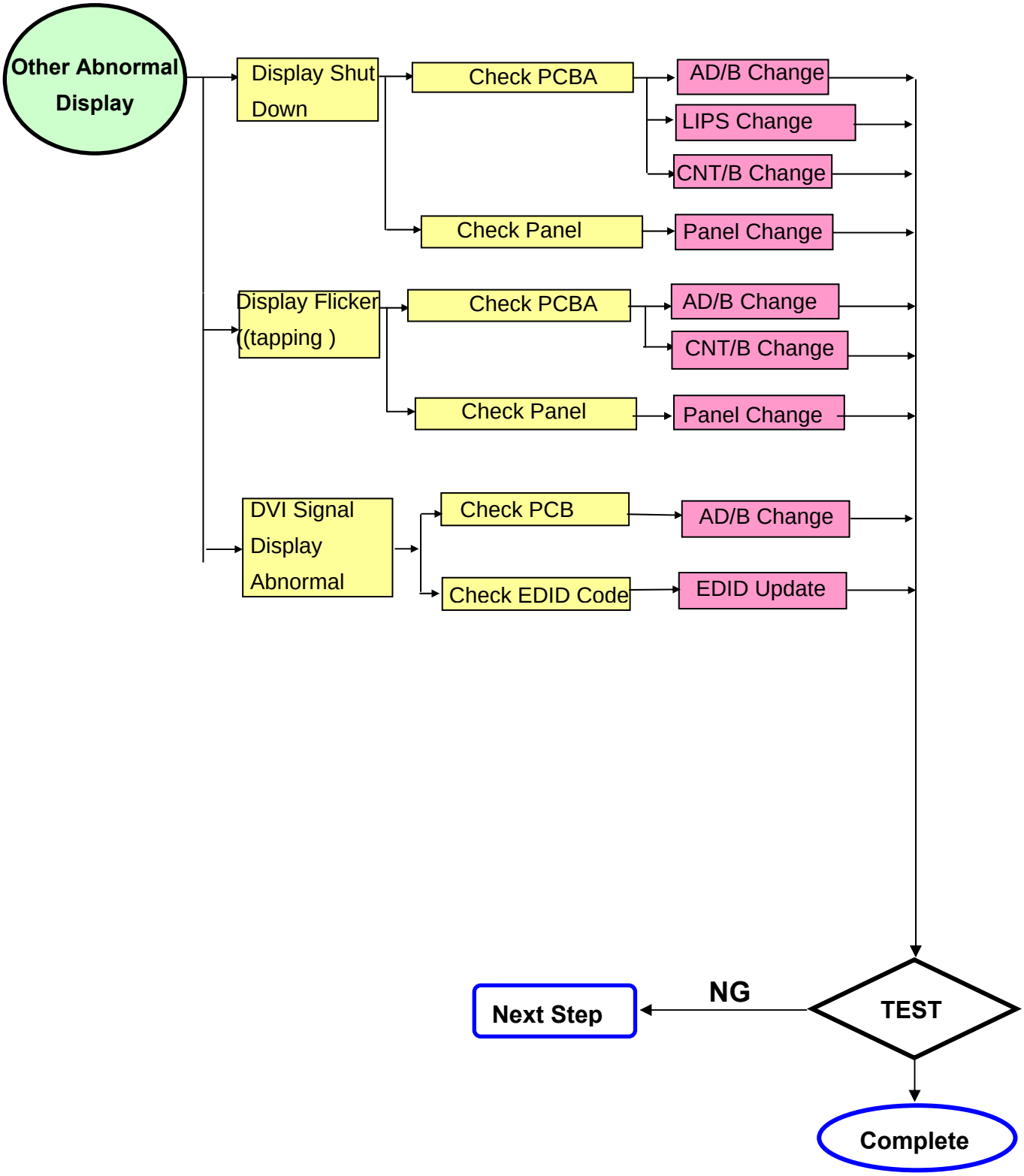


Defect Mode	Failure Analysis	Repair	Testing



Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair



Trouble Shooting Analysis

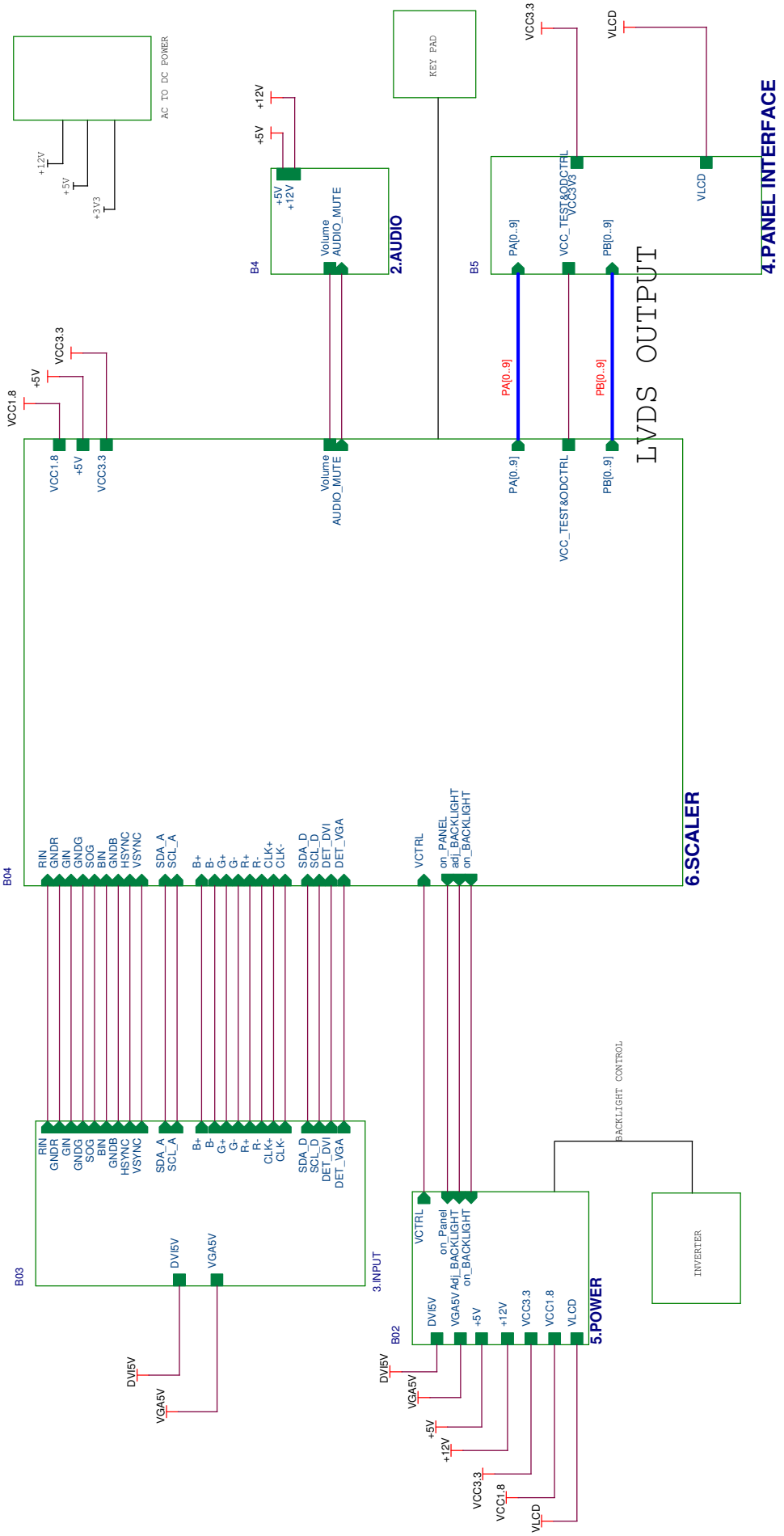
Check the information in this section to see if the problems can be solved before requesting repair.

Note：The consumers are only allowed to solve the problems described as below. Any unauthorized product modification, or failure to follow instructions supplied with the product will end the warranty immediately.

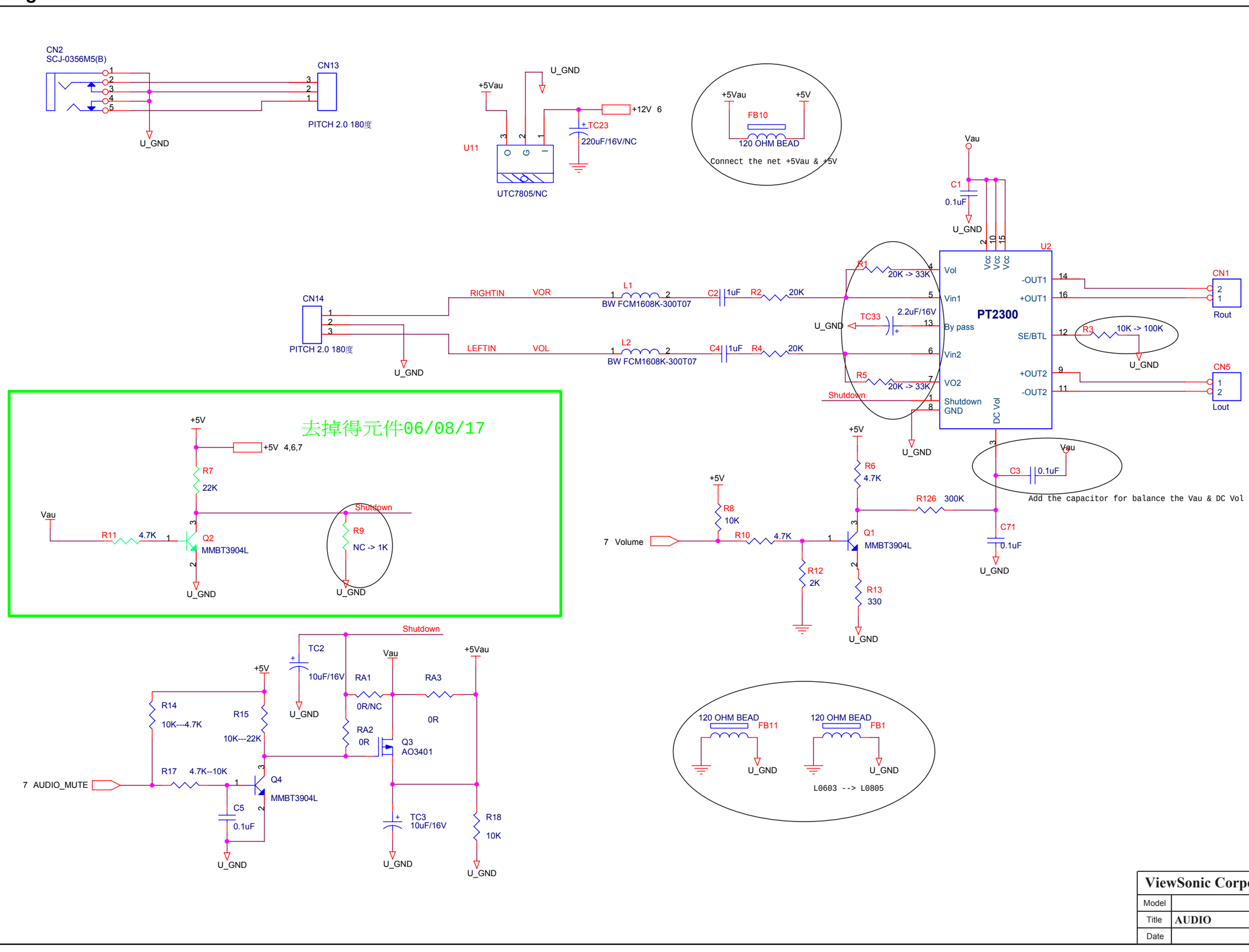
- **No image**
  - ◆ Make sure power button is ON.
  - ◆ Check whether the LCD monitor and computer power cords are plugged and whether there is a supply of power.
- **No Signal Input**
  - ◆ Check the signal connection between the computer and LCD monitor.
- **“Out of Range”**
  - ◆ Check the computer image output resolution and frequency and compare the value with the preset values (Please refer to [Appendix-Display Mode]).
- **Fuzzy Image**
  - ◆ Adjust Phase.
- **Image too bright**
  - ◆ Adjust brightness and contrast by OSD.
- **Image too dark**
  - ◆ Adjust brightness and contrast by OSD.
- **Irregular image**
  - ◆ Check the signal connection between the computer and LCD monitor.
  - ◆ Perform Auto Adjust.
- **Distorted image**
  - ◆ Reset the LCD monitor
  - ◆ Take off extra accessories (such as signal extension cord).
- **Image is not centered**
  - ◆ Use OSD Image Menu to adjust H_Position and V_Position.
  - ◆ Check image size setting.
  - ◆ Perform Auto Adjust.
- **Size is not appropriate**
  - ◆ Use OSD Image Menu to adjust H_Position and V_Position.
  - ◆ Check image size setting.
  - ◆ Perform Auto Adjust.
- **Uneven color**
  - ◆ Use OSD Color Menu to adjust color setting.
- **Color too dark**
  - ◆ Use OSD Color Menu to adjust color setting.
- **Dark area distorted**
  - ◆ Use OSD Color Menu to adjust color setting.
- **White color is not white**
  - ◆ Use OSD Color Menu to adjust color setting.

7. Block Diagram

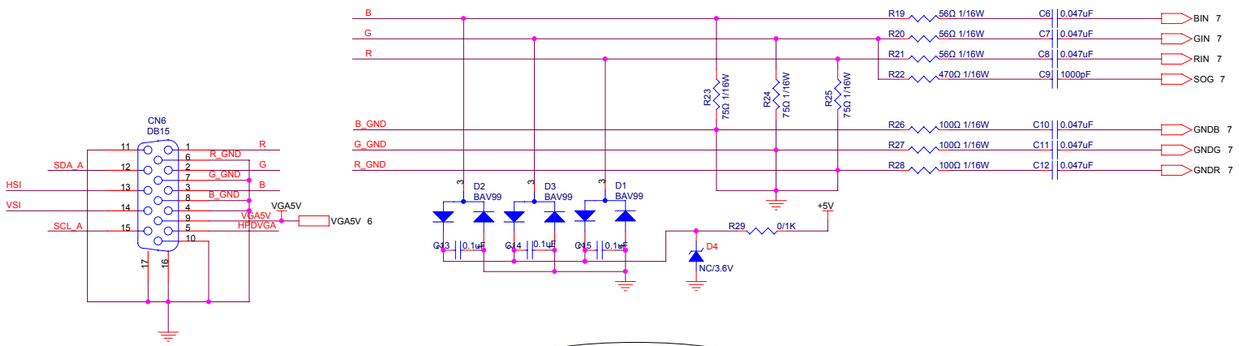
VSC VG1930wm-3 A/D Board BLOCK DIAGRAM



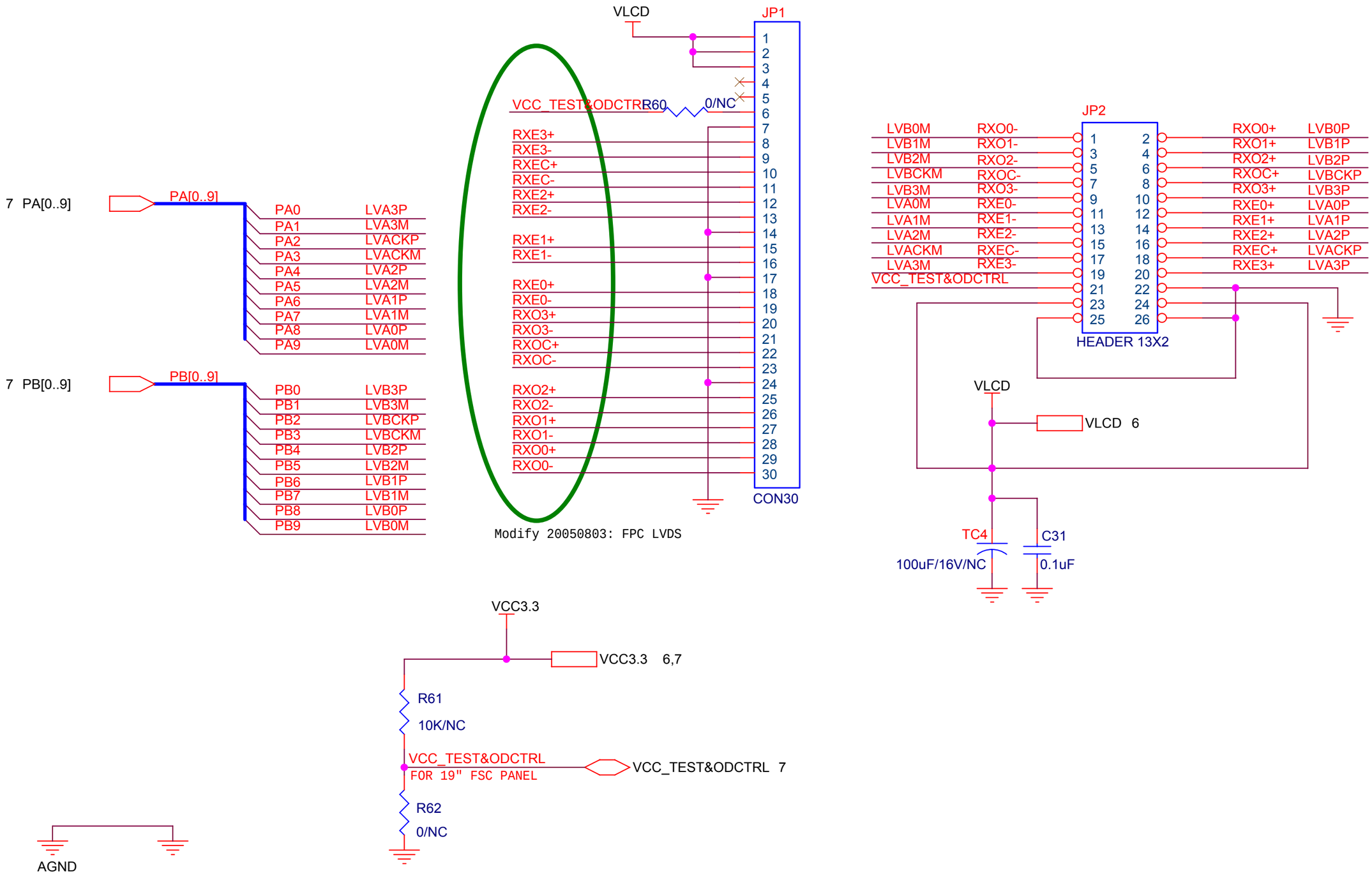
8. Schematic Diagrams



ViewSonic Corporation		
Model		
Title	AUDIO	
Date		Rev:

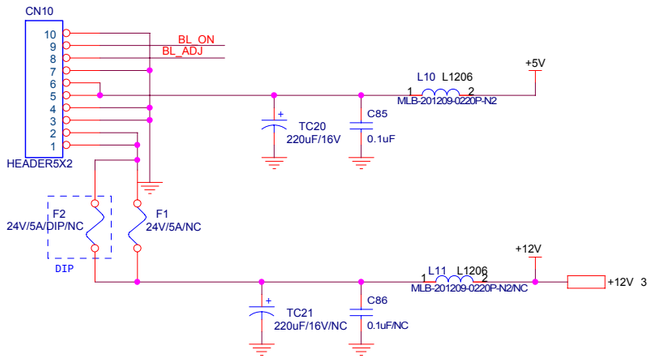


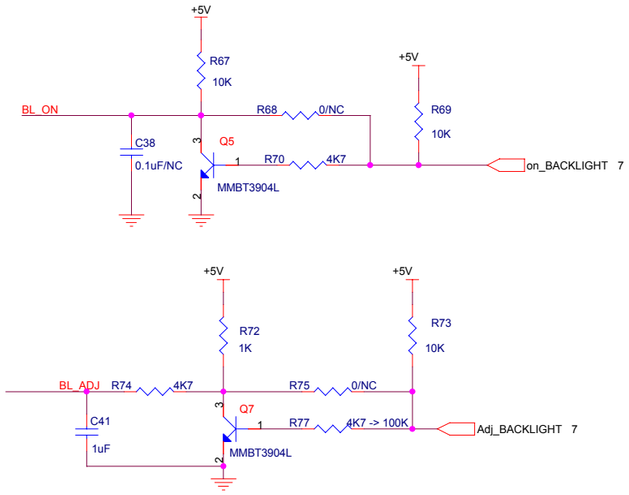
ViewSonic Corporation		
Model		
Title	INPUT	
Date		Rev:

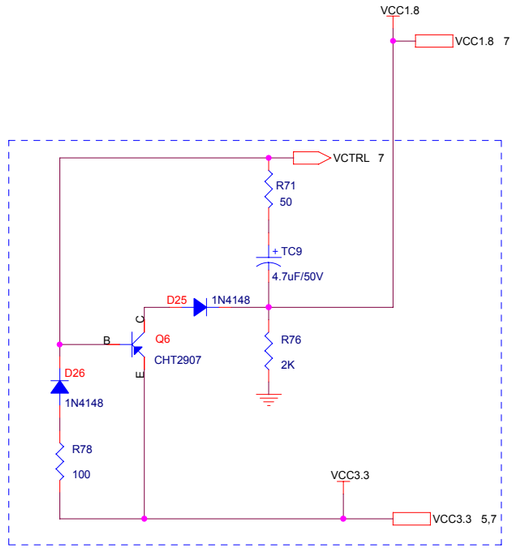


VCC_TEST&ODCTRL is used for OVER DRIVE function control.

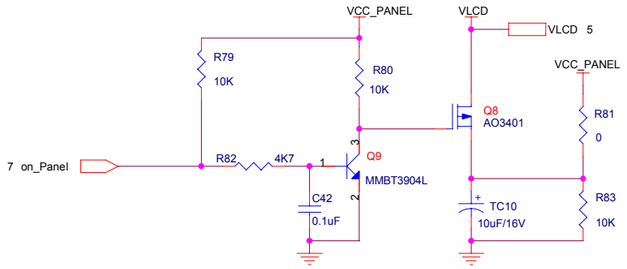
ViewSonic Corporation		
Model		
Title	PANEL INTERFACE	
Date		Rev:

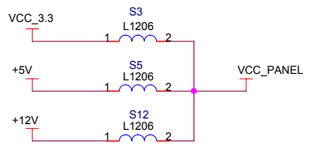


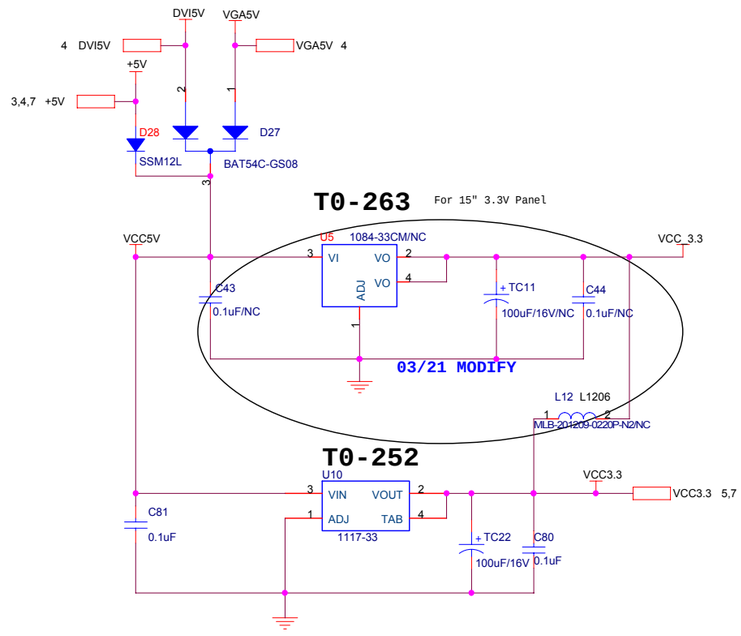




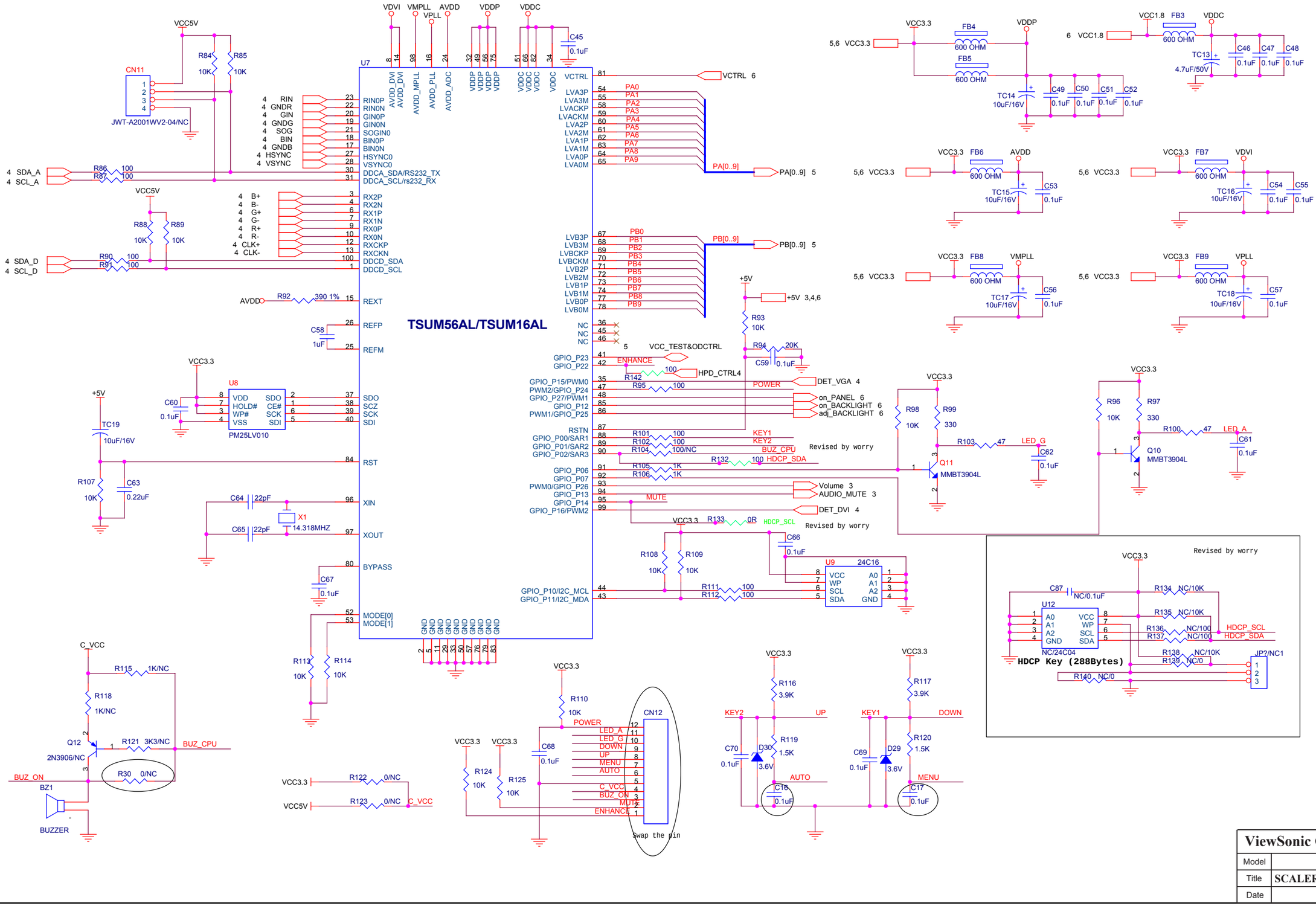
Recommond to used "Blue" parts circuit for VCC1.8V if you want to suppoert DDC function when system power off



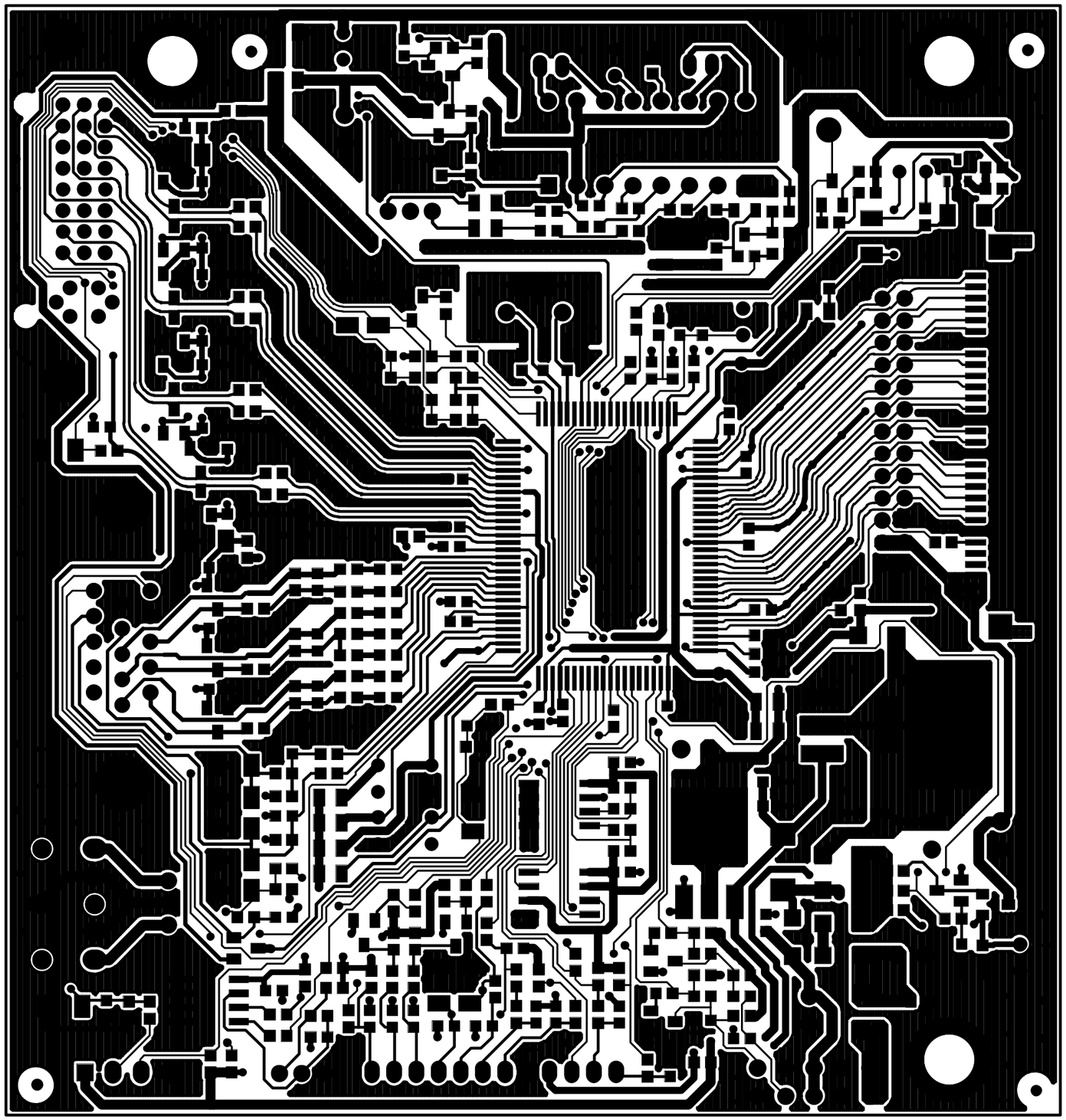


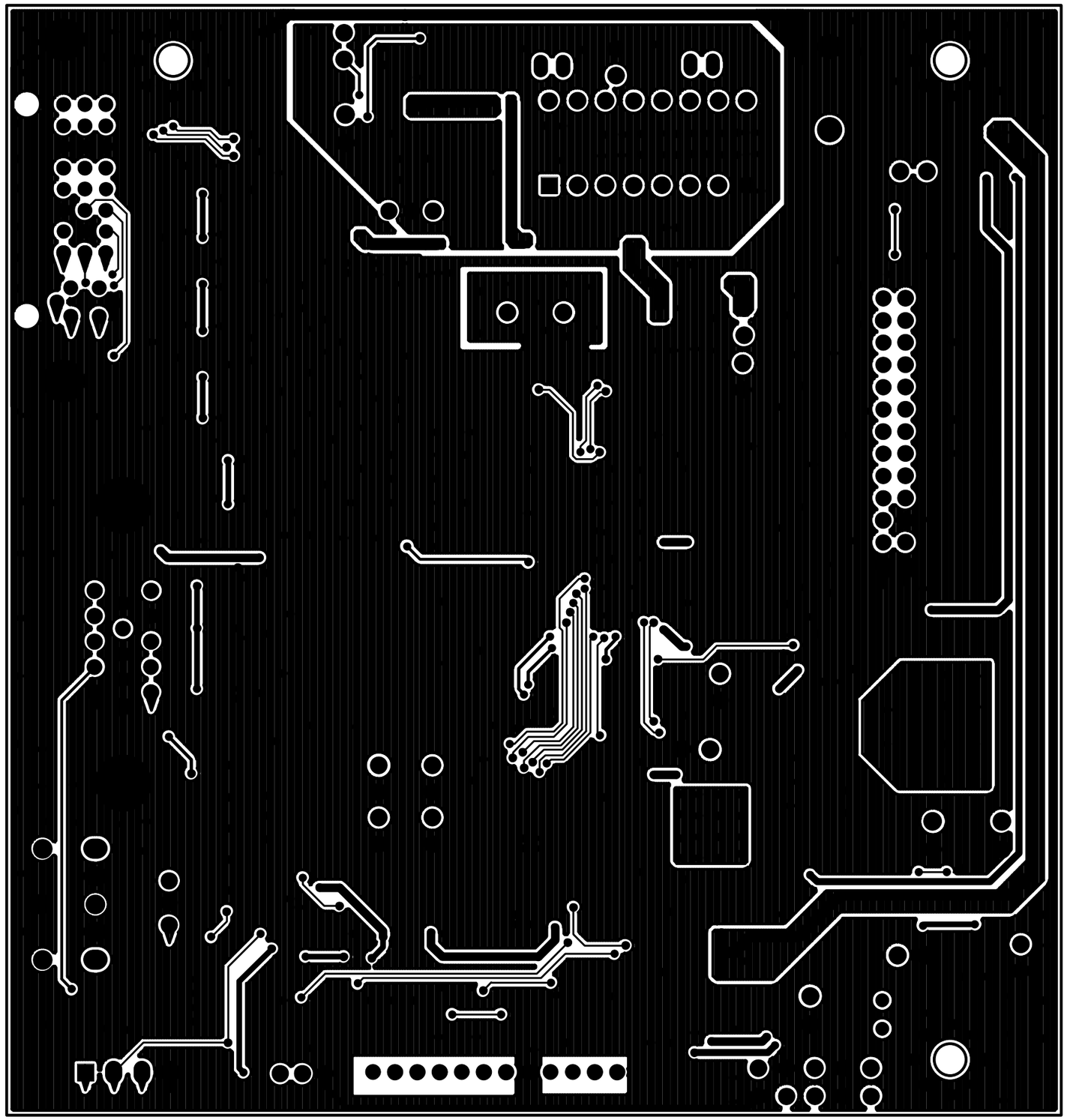


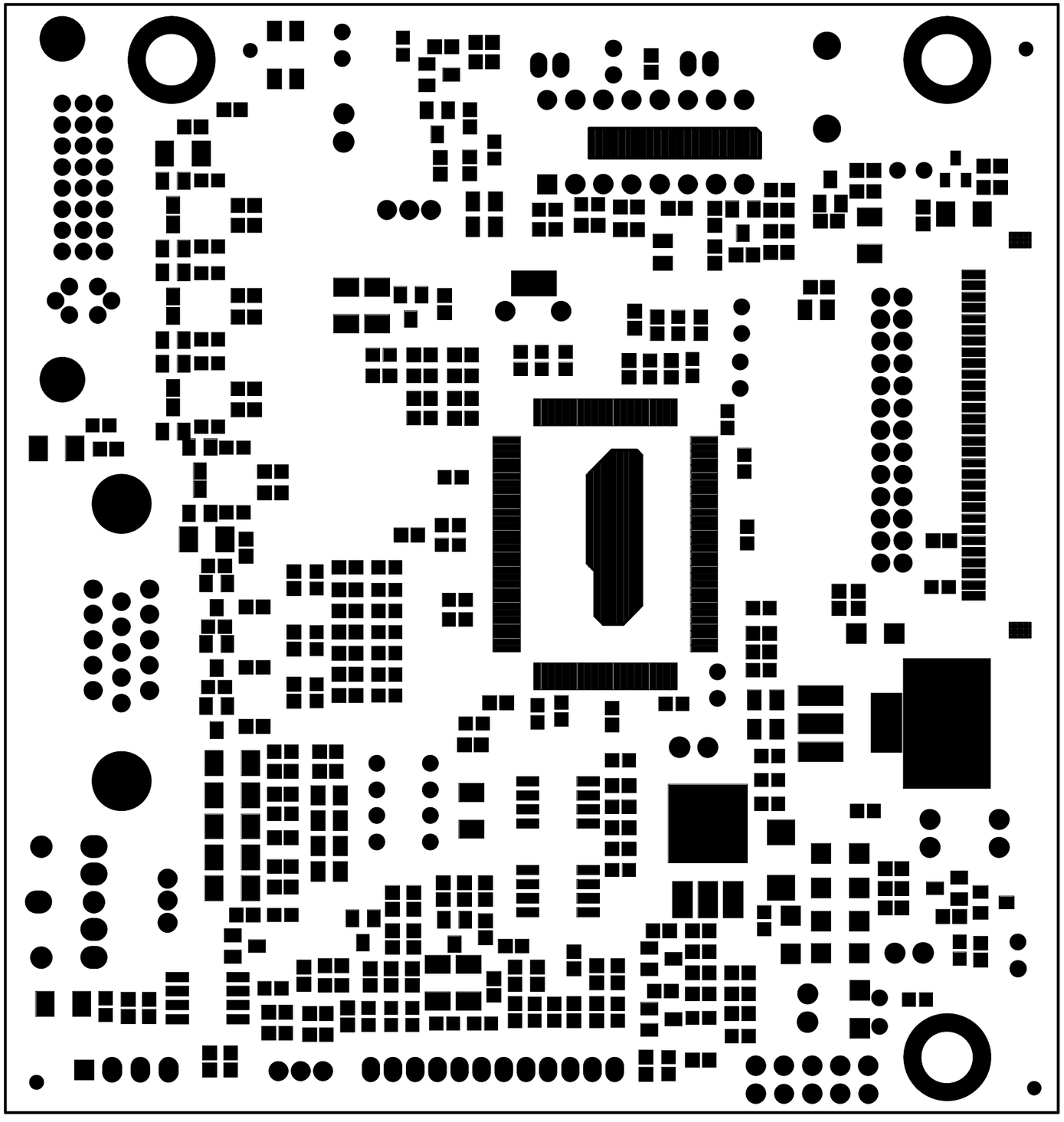
ViewSonic Corporation		
Model		
Title	POWER (DC TO DC)	
Date		Rev:

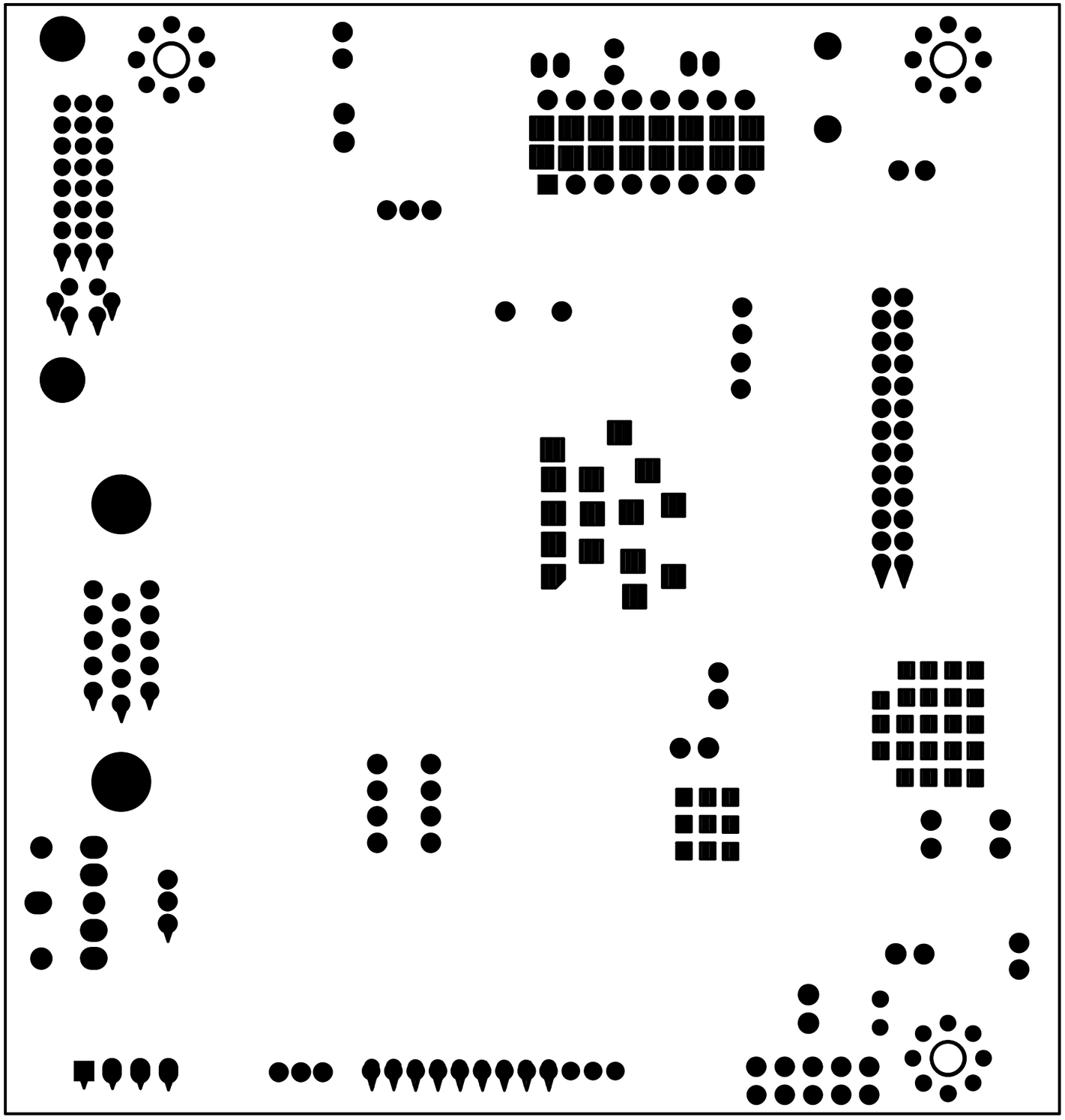

TSUM56AL/TSUM16AL
U7
CN11
JWT-A2001WV2-04/NC
U8
PM25LV010
U9
24C16
U12
HDCP Key (288Bytes)
Q10
MMBT3904L
Q11
MMBT3904L
Q12
2N3906/NC
BZ1
BUZZER
CN12
Swap the pin
Revised by worry
ViewSonic Corporation
Model
Title
SCALER
Date
Rev:

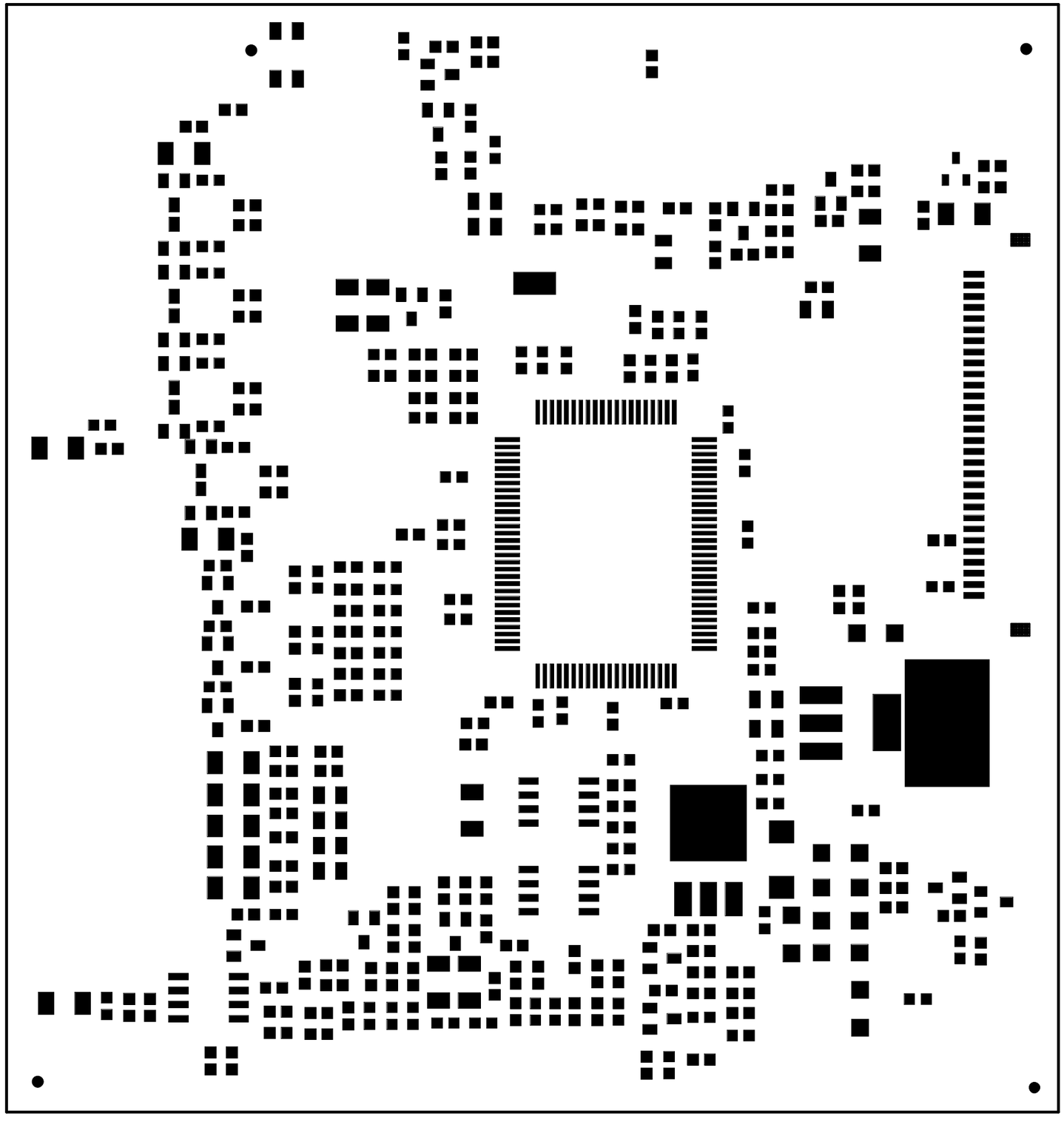
9. PCB Layout Diagrams

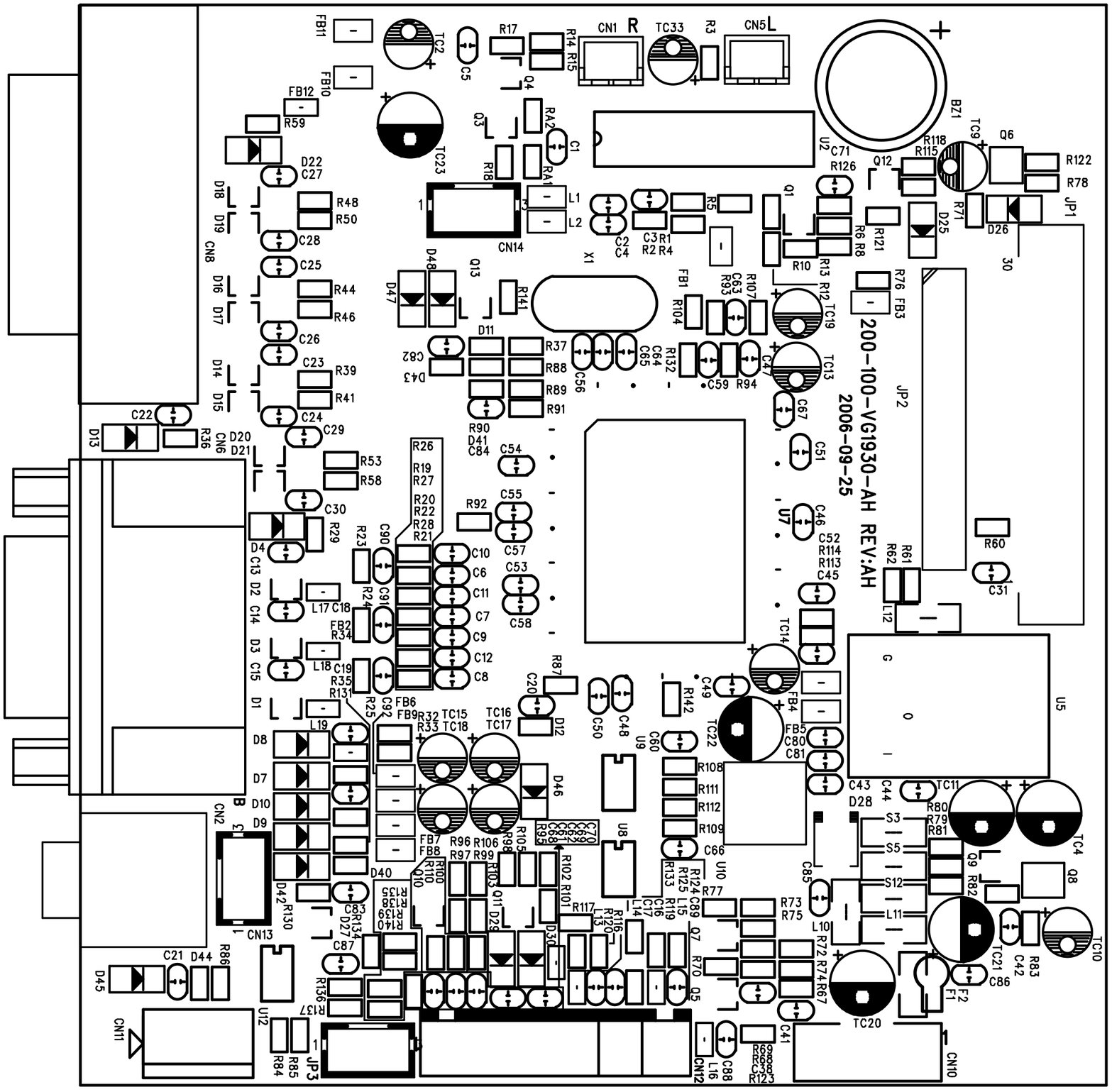




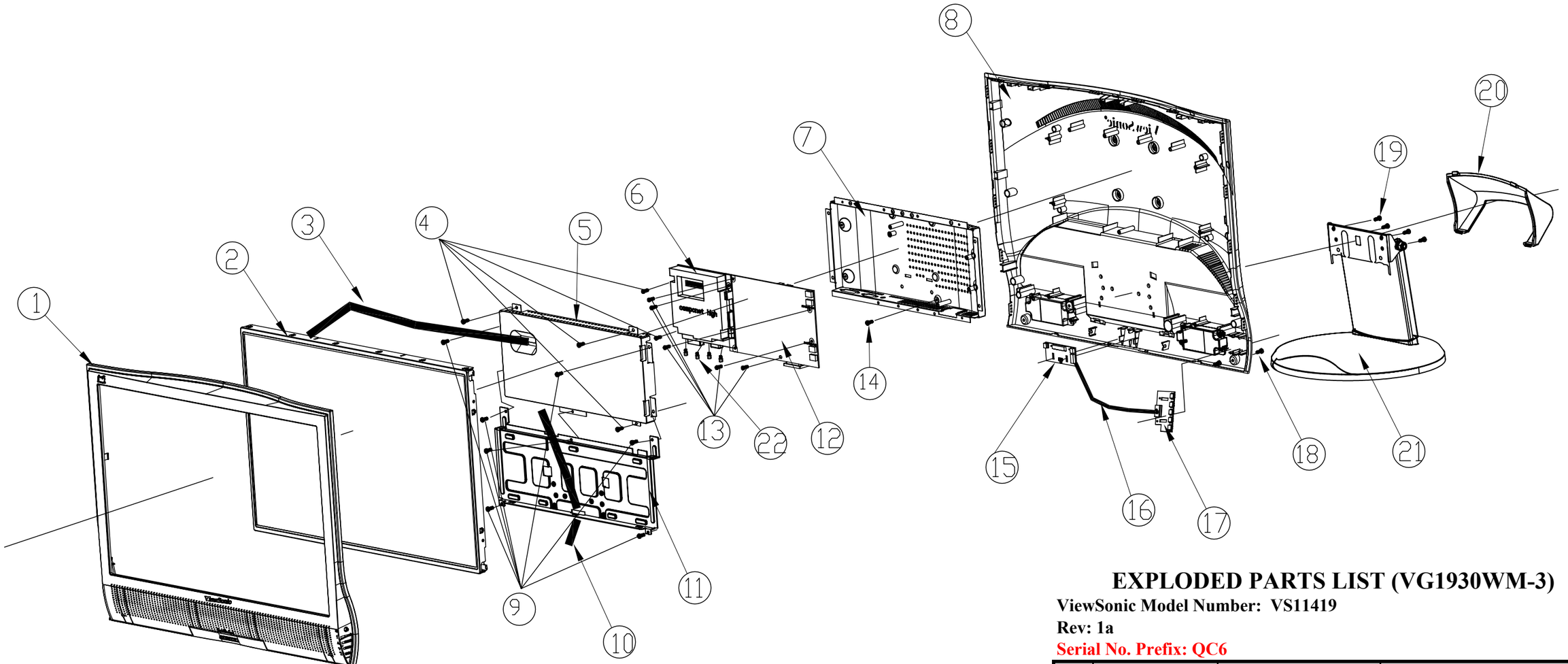







200-100-VG1930-AH REV:AH
2006-09-25
JP2
JP1
U5
U2
U7
U8
U9
U10
U12
X1
CN1
CN2
CN5
CN6
CN8
CN10
CN11
CN12
CN13
CN14
BZ1
Q1
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
F1
F2
F3
JP3

10. Exploded Diagram and Exploded Parts List



EXPLODED PARTS LIST (VG1930WM-3)

ViewSonic Model Number: VS11419

Rev: 1a

Serial No. Prefix: QC6

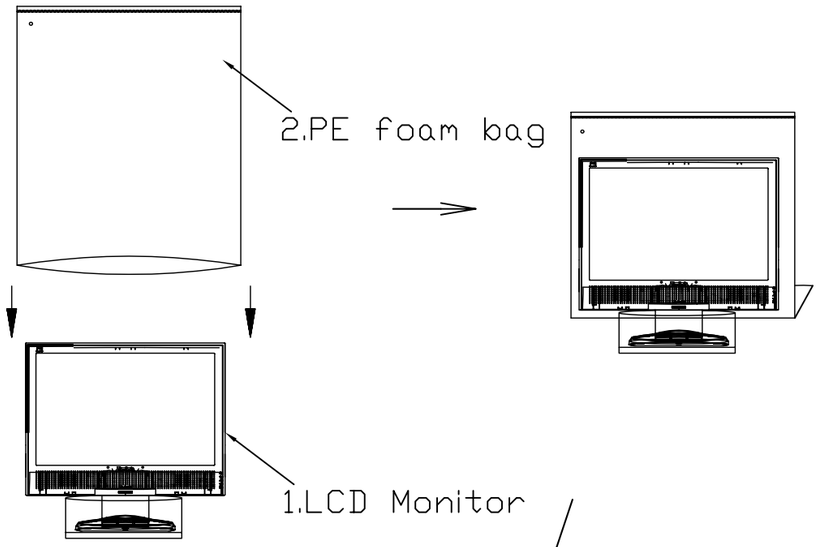
Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	C-00008270	151-MF1-KCIEUT9E-1H	BEZEL	1
2	N/A	705-590-G14CH	PANEL	1
3	CB-00008111	631-030-VG1930H	LVD LINE	1
4	HW-00008085	107-005-3082H	SCREW	5
5	N/A	123-002-CA787DGH	METAL COVER	1
6	B-00008270	899-VLG-19A2D-AH	AD BOARD	1
7	N/A	123-B0D-19A2DH	Metal Case	1
8	C-00008271	151-MR1-KCIE9E-12H	REAR COVER	1
9	PL-00008091	107-010-3073H	SCREW	7
10	CB-00008115	631-013-VG1930-AH	CONTROL WIRE	1
11	N/A	121-001-19A2DH	Support Bracket	1
12	B-00008269	860-AB0-190DTLB-PVH	POWER BOARD	1
13	HW-00008084	107-005-3032H	SCREW	5
14	HW-00008086	108-305-4133H	SCREW	5
15	B-00008272	899-40P-19A2DH	POWER CONTROL BOARD	1
16	N/A	631-006-VG1930H	CONNECT WIRE	1
17	B-00008271	899-400-19A2DH	KEY BOARD	1
18	N/A	107-010-3071H	SCREW	2
19	N/A	108-S10-4033H	SCREW	4
20	C-00008272	154-001-19A2D9E-1H	HINGE COVER	1
21	PL-00008090	151-MS0-HASTANDH	STAND ASSY	1
22	N/A	131-030-2110H	STAND OFF	1

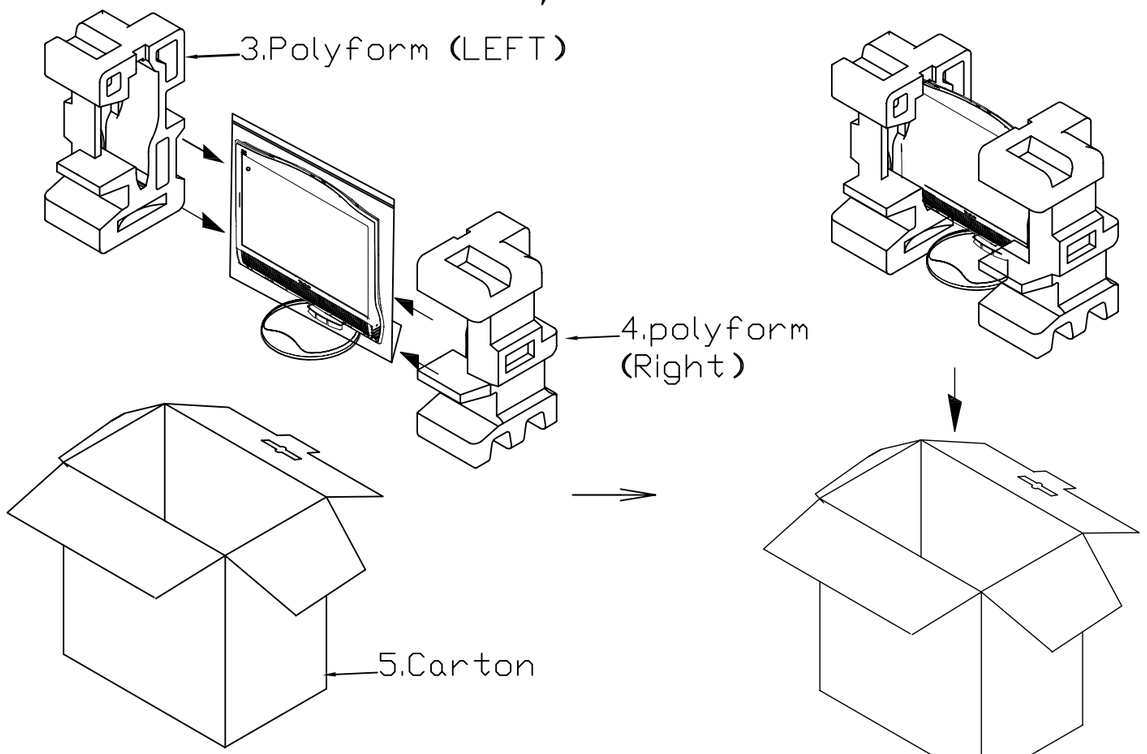
PACKING PART LIST (VG1930WM-3)

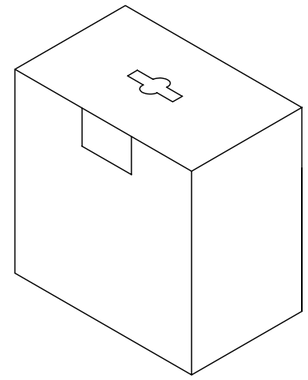
ViewSonic Model Number: VS11419

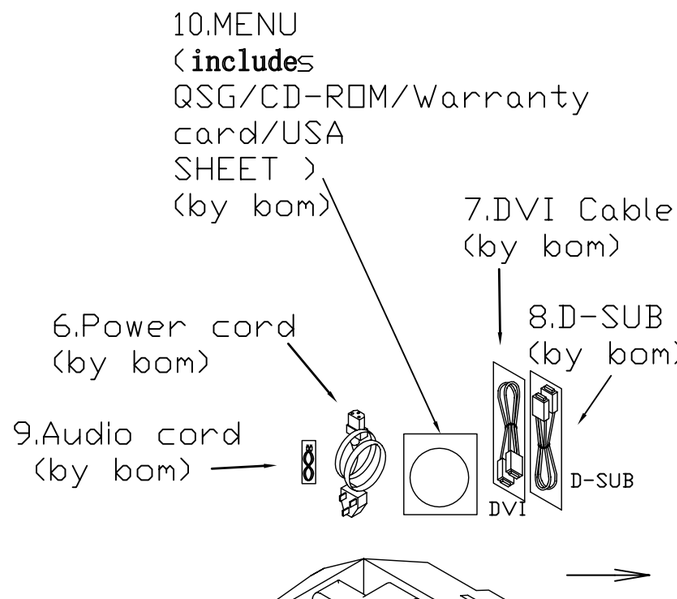
Rev: 1a

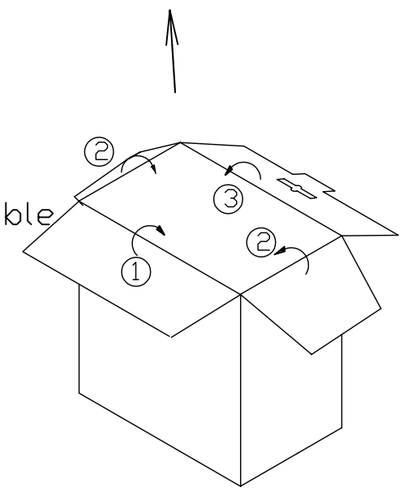
Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1	N/A	VG1930wm-3	LCD Monitior	1
2	P-00008272	170-002-19V38H	PE Foam Bag	1
3	P-00008273	160-00L-19A2DH	cushion（LEFT）	1
4	P-00008274	160-00R-19A2DH	cushion（Right）	1
5	N/A	005-001-19A2D-BH	Carton	1
6	N/A	600-181-3400ICH(by bom)	Power cord(by bom)	1
7	N/A	610-181-19GCH	DVI Cable	1
8	CB-00008112	610-181-15GMFH	D-SUB Cable	1
9	CB-00008114	631-U03-17V28H	Audio Cable	1
10	N/A	002-M01-19A2D-AH	Menu	1

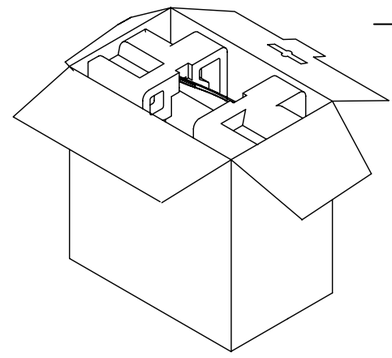












11. Recommended Spare Parts List

RECOMMENDED SPARE PARTS LIST (VG1930WM-3)

ViewSonic Model Number: VS11419
Rev: 1a
Serial No. Prefix: QC6

Item	Description		ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#
1	**Accessories:**	Power Cord (U.K) RoHS		A-00008092	600-181-5000ICH		
2	**PC Board Assembly:**	Power Supply Board+Inverter Board Assy RoHS		B-00008269	860-AB0-190DTLB-PVH		
3	**[All PCBA]**	Audio Control Board		B-00008270	899-VLG-19A2D-AH		
4		Key Board		B-00008271	899-400-19A2DH		
5		Power Supply Board		B-00008272	899-40P-19A2DH		
6	**Cabinets:**	Front Panels		C-00008270	151-MF1-KCIEUT9E-1H		
7	**[Front Panel, All**	Back Cover RoHS		C-00008271	151-MR1-KCIE9E-12H		
8	**Covers, Base**	Hinge Cover RoHS		C-00008272	154-001-19A2D9E-1H		
9	**Cables: [All Cables]**	Signal Cable (connect A.D Board) RoHS		CB-00008111	631-030-VG1930H		
10		Accessory Cable,D-Sub,BLACK JV-4777 30AWG RoHS		CB-00008112	610-181-15GMFH		
11		Accessory Cable,D-Sub,BLACK JCE RoHS		CB-00008113	610-181-15GMCH		
12		Audio Cable - 28AWG 180cm,Blank,JVE RoHS		CB-00008114	631-U03-17V28H		
13		Wire 13p 1.5-2.0 12p+2p*2 A0031460 CME ADD EMI		CB-00008115	631-013-VG1930-AH		
14	**Documentation:**	User Manual + CD Wizard RoHS		DC-00008223	002-M01-19A2DH		
15		Safety label RoHS		DC-00008224	153-001-19A2DH		
16	**Hardware: [Screw,**	Screw B3*5 RoHS		HW-00008084	107-005-3032H		
19	**Bracket, Hinge,**	Screw B M3xL5 TP6 RoHS		HW-00008085	107-005-3082H		
20	**Washer]**	Screw M4 5*4 1010 steel ROHS		HW-00008086	108-305-4133H		
21	**Miscellaneous:**	Tape OPP 900*50*0.045mm		M-00008088	831-950-0301H		
22	**Packing Material:**	Generic Foam		P-00001347	30833		
23	**[Box, Foam, Bags]**	Generic Box		P-00002515	20653		
24		PE Bag 570*600*0.13 RoHS		P-00008272	170-002-19V38H		
25		Foam - Left		P-00008273	160-00L-19A2DH		
26		Foam - Right		P-00008274	160-00R-19A2DH		
27		Craft Box		P-00008275	005-001-19A2DH		
28	**Plastics: [Pedestal,**	Pedestal RoHS		PL-00008090	151-MS0-HASTANDH		
29	**Plate, Rubber Foot,**	B 3*10 TP4 E-Plate Ni RoHS		PL-00008091	107-010-3073H		
30	**Button, etc.]**	Panel protector film		PL-00008092	154-002-19A25H		

Remark 1: Above listed items are examples, supplier can expand the rows to add more necessary items.
Remark 2: All revised RSPLs with newly added items or any change made should be highlighted and correlated with the ECN/ECR approved by ViewSonic Corporation. This is to eliminate repeated cross checks of each item between this version and prior versions.

BOM LIST (VG1930WM-3)

ViewSonic Model Number: VS11419
Rev: 1a
Serial No. Prefix: QC6

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	DC-00008223	002-M01-19A2DH	19A2D MENU ASSY for TaiWan Jingpuze RoHS			1
2	N/A	003-401-19A2DH	19A2D Carton Label 合成紙 76.2*76.2 Sunway RoHS			1
3	N/A	003-H01-19A2DH	19A2D Small Barcode Label 合成紙 RoHS Sunway			1
4	N/A	003-P01-17V27H	17V27 pallet Label white paper75*40 RoHS SUNWAY			0.032
5	P-00008275	005-001-19A2DH	19A2D Carton 瓦楞紙 RoHS			1
6	N/A	005-H01-KA17H	CORNER PROTECTOR PALLET 50mm*50mm*900mm RoHS			0.125
7	N/A	006-X01-KC17H	Corner Protector 50mm*50mm*1850mm RoHS			0.125
8	DC-00008224	153-001-19A2DH	19A2D Safety label RoHS			1
9	PL-00008092	154-002-19A25H	19A25 Panel protector film XG-536 T=0.1 With_Print JsutEuter			1
10	N/A	170-000-PALLETH	PE Sheet LDPE Transparent 1850*1600mm RoHS			0.032
11	P-00008272	170-002-19V38H	19V38 Pe Bag white LDPE 570*600*0.13 RoHS			1
12	P-00008273	160-00L-19A2DH	19A2D Folyform-L EPS MingChan RoHS			1
13	P-00008274	160-00R-19A2DH	19A2D Folyform-R EPS MingChan RoHS			1
14	N/A	831-410-0600H	ALL LCD PP Belt 10*0.8 Yellow 10KG RoHS			0.002
15	M-00008088	831-950-0301H	19V3F Tape OPP 900*50*0.045mm Symbio RoHS			0.0725
16	N/A	836-045-0500SH	VOLUBLE FILM 450mm*400m RoHS			0.008
17	N/A	841-001-19A2DH	19A2D PATTET Wooden RoHS			0.032
18	N/A	705-590-G14CH	19"CMO-W PANEL(M190A1-L02) time:5ms RoHS			1
19	N/A	932-000-HDCPH	A HDCP Receiver key			1
20	HW-00008084	107-005-3032H	SCREW B3*5 ISO E-PLATE WHITE Zn RoHS			5
21	HW-00008085	107-005-3082H	SCREW B M3xL5 TP6 E-PLATE COLOR Zn RoHS			5
22	PL-00008091	107-010-3073H	B 3*10 TP4 E-PLATE Ni RoHS			7
23	HW-00008086	108-305-4133H	SCREW M4 5*4 1010 steel ROHS			1
24	N/A	123-002-CA787DGH	CA787DG METAL COVER SECC=0.6t RoHS			1
25	N/A	123-B0D-19A2DH	19A2D METAL-CASE SECC T=1.0 DongFa/Wei yao RoHS			1
26	N/A	154-M00-8090H	Mylar 80*90*0.3mm PET TRANSLUCENCY RoHS			1
27	N/A	154-M00-DA985DGH	DA985DG MAYLER 173*115*0.3mm PET			1
28	CB-00008112	610-181-15GMFH	Accessory Cable,D-Sub,BLACK JV-4777 30AWG RoHS			1
29	CB-00008113	610-181-15GMCH	Accessory Cable,D-Sub,BLACK JCE RoHS			1
30	CB-00008115	631-013-VG1930-AH	Wire 13p 1.5-2.0 12p+2p*2 A0031460 CME ADD EMI RoHS			1
31	B-00008269	860-AB0-190DTLB-PVH	19"POWER+INVERTER MOUSE 3PIN C201 100uf/400V REV:A+ RoHS			1
32	B-00008270	899-VLG-19A2D-AH	PCBA,19A2D,A/D Board With Audio,REV:A RoHS			1
33	N/A	003-001-ADBIOSH	ALL CMO LCD BIOS Label poly 40*8mm RoHS			1
34	N/A	330-100-16253-WH	dispersing 10uF 16V 105C M TP 4*5 HUAWEI RoHS	TC14,TC15,TC10,TC16,TC17,TC18,		7
35	N/A	330-100-16253-JH	dispersing 10uf 16V 105C 4*5 jian long RoHS			7
36	N/A	330-101-16253-WH	EC 100uF 16V 105D M TP MI 009 6*5 FOR RoHS dispersing sh	TC22		1
37	N/A	330-221-16203-W1H	EC.220uF/16V 105°C Φ6*11 dispersing shorting,huawei 180	TC20		1
38	N/A	330-2R2-50253-WH	2.2uF 50V 105D 4*5 RoHS 180D dispersing shorting,huawei Roh	TC33		1
39	N/A	330-4R7-50253-WH	EC 4.7uF 50V 105DEGREE MTP 4*5dispersing shorting,huawei RoH	TC13,TC9		2
40	N/A	409-005-0105BAH	PHOE JACK GREEN+BLACK SCPRE RoHS	CN2		1
41	N/A	483-302-2388H	FEMALE180D 2.5P 254FH15 1S H8.50mm TY RoHS	CN10		1
42	N/A	485-415-9001TH	D-SUB 15P 8.89 PC99 90D FEMALE1285-15S-004-98F RoHS TEKCO	CN6		1
43	N/A	485-D25-R001TH	DVI-D/25P/90D(1241-440-054-32)TEKCON RoHS	CN8		1
44	N/A	485-D25-R001ZH	DVI-D 25P 90D FEMALE NTK RoHS			1
45	N/A	504-A00-PT2300H	AUDIO AMP IC FOR PTC PT2300 RoHS	U2		1
46	N/A	531-143-49US-2H	KTS QYSTAL 14.318MHZ. 20PF FOR RoHS	X1		1
47	N/A	630-002-1009H	BASE 2pin JWT A2001 PITCH=2mm Straight FOR RoHS	CN1,CN5		2
48	N/A	630-012-1009H	BASE 12P PITCH 2.0 FOR RoHS	CN12		1
49	N/A	630-026-S2006H	BASE 2.0 26P /JWTA2006 STRAIGHFOR ROHS 2 ARRAY	JP2		1
50	N/A	631-003-VG1930-AH	Boand-in Wier 2.0 3p CME A0031459 RoHS			1
51	N/A	852-VLG-19A2D-AH	SMD,19A2D,A/D Board With Audido,REV:A RoHS			1
52	N/A	200-100-VG1930-AH	VSC VG1930 A/D B PCB,MST,TSUM56AWHL Rev:A RoHS			1
53	N/A	281-031-39004H	SMD 390ohm +-1% 1/10W 0603 RoHS	R92		1
54	N/A	281-031-47004H	SMD 470ohm +-1% 1/10W 0603 RoHS	R22		1
55	N/A	281-031-49R94H	RES 49.9ohm 1% 1/10W 0603 SMD.RoHS	R71		1
56	N/A	281-031-56R04H	RES 56.OΩ +-1% 0603 SMD RoHS	R19,R20,R21		3
57	N/A	281-031-75R04H	RES 75 1% 1/10W 0603 SMD RoHS	R23,R24,R25		3
58	N/A	281-035-0R04H	SMD 0ohm +-5% 1/10W 0603 RoHS	RA1		1
59	N/A	281-035-0R04H	SMD 0ohm +-5% 1/10W 0603 RoHS	R39,R41,R44,R46,R48,R50		6
60	N/A	281-035-0R04H	SMD 0ohm +-5% 1/10W 0603 RoHS	R81,RA2,R29		3
61	N/A	281-035-1004H	SMD,10ohm,+-5%,1/10W,0603 Green I	R53,R58		2
62	N/A	281-035-1014H	SMD 100ohm +-5% 1/10W 0603 RoHS	R142		1
63	N/A	281-035-1014H	SMD 100ohm +-5% 1/10W 0603 RoHS	R27,R28,R78,R86,R26,R87,R112,R90,R91,R95,R101,R102,R111		13
64	N/A	281-035-1024H	SMD 1K +-5% 1/10W 0603 Green I	R105,R106,R32,R33,R72		5
65	N/A	281-035-1034H	SMD 10K +-5% 1/10W 0603 Green I	R108,R109,R110,R113,R114,R130,R36,R59,R67,R69,R107,R73,R17,R79,R8,R80,R83,R84,R85,R88,R89,R93,		25
66	N/A	281-035-1044H	Chip Resistor SMD +-5% 0603 1/10W 100K ohm Green I	R3		1
67	N/A	281-035-1044H	Chip Resistor SMD +-5% 0603 1/10W 100K ohm Green I	R141		1
68	N/A	281-035-1214H	RES 120 5% 1/10W 0603 SMD	FB2		1
69	N/A	281-035-1524H	RES 1.5K 5% 1/10W 0603 SMD. RoHS	R119,R120		2
70	N/A	281-035-2024H	SMD,2K,+-5%,1/10W,0603,RoHS	R76,R12		2
71	N/A	281-035-2034H	SMD 20K +-5% 1/10W 0603 Green I RoHS	R2,R4,R94		3
72	N/A	281-035-2224H	SMD 2.2K +-5% 1/10W 0603 RoHS	R34,R35		2
73	N/A	281-035-2234H	SMD R 22K 0603 RoHS	R15		1
74	N/A	281-035-3034H	SMD 30Kohm +-5% 1/10W 0603 Green I	R1,R5		2
75	N/A	281-035-3044H	RES 300K 5% 1/10W 0603 SMD. RoHS	R126		1
76	N/A	281-035-3314H	RES 330 5% 1/10W 0603 SMD. FOR RoHS	R13,R97,R99		3
77	N/A	281-035-3924H	SMD 3.9K +-5% 1/10W 0603 RoHS	R116,R117		2
78	N/A	281-035-4704H	RES 47ohm 5% 1/10W 0603 SMD. FOR RoHS	R100,R103		2
79	N/A	281-035-4724H	SMD 4.7K +-5% 1/10W 0603 GreenII	R6,R10,R77,R70,R74,R82,R14		7
80	N/A	285-056-B160CH	SMD VARISTOR 0603 5.5V 10pF RoHS HongDe	D11,D12,D40,D41,D43,D44		6
81	N/A	330-221-16203-W1H	EC.220uF/16V 105°C Φ6*11 dispersing shorting,huawei 180	TC23		1
82	N/A	381-101-032554H	SMD CC NPO 100pF/25V 0603 +-5%RoHS	C20,C21,C82,C84		4
83	N/A	381-102-035054H	NPO 1000P/50V +-5% 0603 SMD RoHS	C9		1
84	N/A	381-220-032554H	SMD CC 22pF 25V NPO 0603. for RoHS	C65,C64		2

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
85	N/A	381-330-032554H	NPO 33PF/25V +-5% 0603 SMD RoHS	C18,C19		2
86	N/A	381-681-032554H	SMD CC 680pF 25V NP0 0603 RoHS	C88,C89		2
87	N/A	382-222-032564H	SMD CC 2200pF/25V X7R 0603. RoHS	C63		1
88	N/A	385-104-032584H	SMD CC Y5V 0.1uF/25V -20%~+80%0603 RoHS	C1,C13,C14,C15,C16,C17,C22,C23, C24,C25,C26,C27,C28,C29,C30,C31, C42,C45,C46,C47,C48,C3,C49,C85, C50,C51,C52,C53,C54,C55,C56,C57, C59,C60,C61,C62,C66,C67,C68,C69,		45
89	N/A	385-105-031684H	Y5V 1uF/16V +80-20% 0603. for RoHS	C2,C4,C41,C58		4
90	N/A	385-473-032584H	Y5V 0.047u/25V +80%-20% 0603for RoHS	C6,C7,C8,C10,C11,C12		6
91	N/A	506-524-LC16-MH	EEPROM,24LC16BT-I/SNG S08 RoHSMicrochip	U9		1
92	N/A	506-525-L1005H	MX25L1005 FLASH IC 1M 33Mhz RoHS	U8		1
93	N/A	506-5PM-25LV010EH	PMC SPI FLASH 25LV010E RoHS			1
94	N/A	506-CTS-M56AWHL-1H	MSTAR TSUM56AWHL-LF-1 For RoHS	U7		1
95	N/A	506-RAS-1117-33H	LDO AS1117L 3.3V SOT-223 A1 RoHS	U10		1
96	N/A	518-02N-3904H	TR NPN PMBS3904 40V 100mA SOT-23 RoHS PHILIPS	Q1,Q4,Q5,Q7,Q9,Q10,Q11		7
97	N/A	518-02N-3904-FH	TR NPN MMBT3904LT1 40V 100mA SOT HM RoHS			7
98	N/A	518-02N-3904H	TR NPN PMBS3904 40V 100mA SOT-23 RoHS PHILIPS	Q13		1
99	N/A	518-02N-3904-FH	TR NPN MMBT3904LT1 40V 100mA SOT HM RoHS			1
100	N/A	518-02N-3906H	TR PNP PMBS3906 40V 100mA SOT-23 RoHS PHILIPS	Q12		1
101	N/A	518-02N-3906-FH	TR PNP MMBT3906LT1 40V 100mA SOT23 HM RoHS			1
102	N/A	518-FAO-3401H	Transistor P-MOS,SOT-23,AO3401,-30V/-4.2A AO RoHS	Q8		1
103	N/A	518-TCH-2907AH	Transistor CHT2907A SOT-23 Chenmko RoHS	Q6		1
104	N/A	528-200-BAV99-CH	Switching Diode,BAV99,SOT-23 PHILIPS RoHS	D1,D2,D3,D14,D15,D16,D17,D18,D 19,D20,D21		11
105	N/A	528-2BA-T54CH	SMD DIODE BAT54C SOT23.FOR RoHS	D27		1
106	N/A	528-DSS-M12LH	schottky barrier 20~40V 1A D0-214AC SSM14LPT Chenmko RoHS	D28		1
107	N/A	528-R1N-4148H	DIODE 1N4148 SOT-34 SMD. for RoHS	D8,D10,D26,D25		4
108	N/A	529-350-03R6H	ZENER BZT52C3V6 3.6V SOD123 Chang dian RoHS	D22,D29,D30		3
109	N/A	529-350-05R6H	SMD ZENER 5.6V BZT52C5V6 Changdian RoHS	D9,D7,D13,D42		4
110	N/A	780-103-300C04H	BEAD 30ohm 400mA 0603 CHILISINRoHS	L17,L18,L19		3
111	N/A	780-103-301C02H	BEAD SMD 300ohm,200mA,+-25% CHILISIN RoHS	L13,L14,L15,L16		4
112	N/A	780-103-601C07H	BEAD SMD 600ohm/1A,0603 +-25% CHILISIN RoHS	FB12		1
113	N/A	780-104-600C30H	SMD BEAD 0805 60Ω/100MHz 3A CHILISIN FOR RoHS	L1,L2		2
114	N/A	780-104-600E30H	SMD BEAD 0805 60Ω/100MHz 3A FOR ROHS			2
115	N/A	780-104-601C30H	SMD BEAD 600ohm 3A 0805 100MHZ RoHS CHILISIN	FB3,FB4,FB5,FB6,FB7,FB8,FB9,FB		8
116	N/A	780-107-121C50H	BEAD SMD 120ohm/5A 1206 CHILISIN RoHS	S5,L10		2
117	N/A	780-107-121J50H	BEAD 120ohm 1206 5A 1206 Jantek FOR RoHS			2
118	B-00008271	899-400-19A2DH	PCBA,Control Key Board 19A2D(VG1930WM),RoHS			1
119	N/A	200-K00-VG1930H	VSC VG1930wm CONTROL KEY PCB RoHS			1
120	N/A	403-720-PTCFH	SMD TACT SW SIDE KEY PTCF ALTA RoHS	SW2,SW3,SW4,SW5,SW6		5
121	N/A	403-720-04TSCFAH	SMD TACT SW SIDE KEYTSCF-31C HUA-JIE RoHS 180gf	SW2,SW3,SW4,SW5,SW6		5
122	N/A	638-006-2611H	SMD Wafer P1.5 6P 90D 5W1.2611B ARC RoHS	CN5		1
123	B-00008272	899-40P-19A2DH	PCBA,Power Key Board 19A2D(VG1930WM),RoHS			1
124	N/A	200-K01-VG1930AH	VSC VG1930wm Power Control KeyPCB REV:A RoHS			1
125	N/A	403-720-02TSUYH	SMD TACT SW 180D TSUY-2SL HUA-JIE RoHS	SW1		1
126	N/A	528-LPB-3227H	SMD KED KPB-3227SYKQBCC (V1) BLU/Org KINGBRIGHT	D1		1
127	N/A	638-002-2611H	SMD Wafer P1.5 2P 90D 5W1.2611B ARC RoHS	CN2,CN3		2
128	N/A	638-006-2611H	SMD Wafer P1.5 6P 90D 5W1.2611B ARC RoHS	CN4		1
129	N/A	638-013-2611H	SMD Wafer P1.5 13Pin 90D 5W1.2611B ARC RoHS	CN1		1
130	C-00008270	151-MF1-KCIEUT9E-1H	19A2D BEZEL ASS'Y UT+9E ABS-PA757 VSC+ENERGY STAR Fuking			1
131	C-00008271	151-MR1-KCIE9E-12H	19A2D Rear ASS'Y EM-009E ABS-PA757 Black Fuking RoHS			1
132	PL-00008090	151-MS0-HASTANDH	19A2D HASTAND RoHS			1
133	C-00008272	154-001-19A2D9E-1H	19A2D Hing Cover EM-009E ABS HG Guan Yi RoHS			1
134	N/A	107-010-3071H	SCREW B-Head 3.0*10 BLK RoHS			2
135	N/A	108-S10-4033H	SCREW M4*10 P=0.7 Ni-Plate Fe RoHS SHYE CHing			4
136	N/A	121-001-19A2DH	19A2D SUPPORT PLATE SECC T=1.0 DongFa RoHS			1
137	N/A	126-030-ALM7H	C9 insulating film AL FOIL 70*30mm EMI FOR RoHS			1
138	N/A	126-030-ALP1H	AL FOIL 80*30mm RoHS			1
139	N/A	126-030-ALP6H	AL FOIL 50*30mm RoHS			1
140	N/A	131-030-2110H	signal cable Hex head screw 3.0 mm L=12mm RoHS			4
141	A-00008092	600-181-5000ICH	P/C SP-60/IS-14,Black,U.K.,1.8M,I-sheng RoHS			1
142	N/A	600-181-5000NCH	P/C LP-60L,H05VV-F,LS-60,Black1.8M,Linetek,RoHS			1
143	N/A	631-006-VG1930H	Wier 6P1.5 A0031461 CME RoHS			1
144	CB-00008111	631-030-VG1930H	LVDS 30P A0031458 CME RoHS			1
145	CB-00008114	631-U03-17V28H	17V28 AUDIO CABLE A170E1-H01 28AWG 180cm,Blank,JVE RoHS			1
146	N/A	631-U03-17V28CH	Audio cable 28AWG 180cm Black RoHS JCE			1
147	N/A	831-B10-01013-ALZH	AL CONDUCTIVE FOAM W10*H13*L10mm ZONGCHEN ROHS			1
148	N/A	831-B10-3502-ALZH	AL CONDUCTIVE FOAM L40*W14*H2 mm ZONGCHEN ROHS			1
149	N/A	831-B14-3502-ALZH	AL CONDUCTIVE FOAM L25*W14*H2 mm ALGK RoHS			1

* Reader's Response*

Dear Readers:

Thank you in advance for your feedback on our Service Manual, which allows continuous improvement of our products. We would appreciate your completion of the Assessment Matrix below, for return to ViewSonic Corporation.

Assessment

A. What do you think about the content of this Service Manual?

Unit	*Excellent*	*Good*	*Fair*	*Bad*
1. Precautions and Safety Notices				
2. Specification				
3. Front Panel Function Control Description				
4. Circuit Description				
5. Adjustment Procedure				
6. Troubleshooting Flow Chart				
7. Recommended Spare Parts List				
8. Exploded Diagram and Exploded Parts List				
9. Block Diagrams				
10. Schematic Diagrams				
11.PCB Layout Diagrams				

B. Are you satisfied with this Service Manual?

Item	*Excellent*	*Good*	*Fair*	*Bad*
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinions or suggestions regarding this service manual?

Reader's basic dada:

Name:		**Title:**	
Company:			
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After completing this form, please return it to ViewSonic Quality Assurance in the USA at facsimile 1-909-839-7943. You may also e-mail any suggestions to the Director, Quality Systems & Processes (marc.maupin@viewsonic.com)